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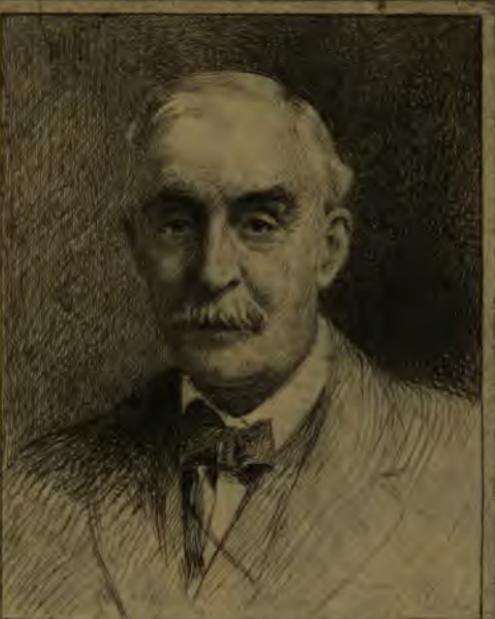
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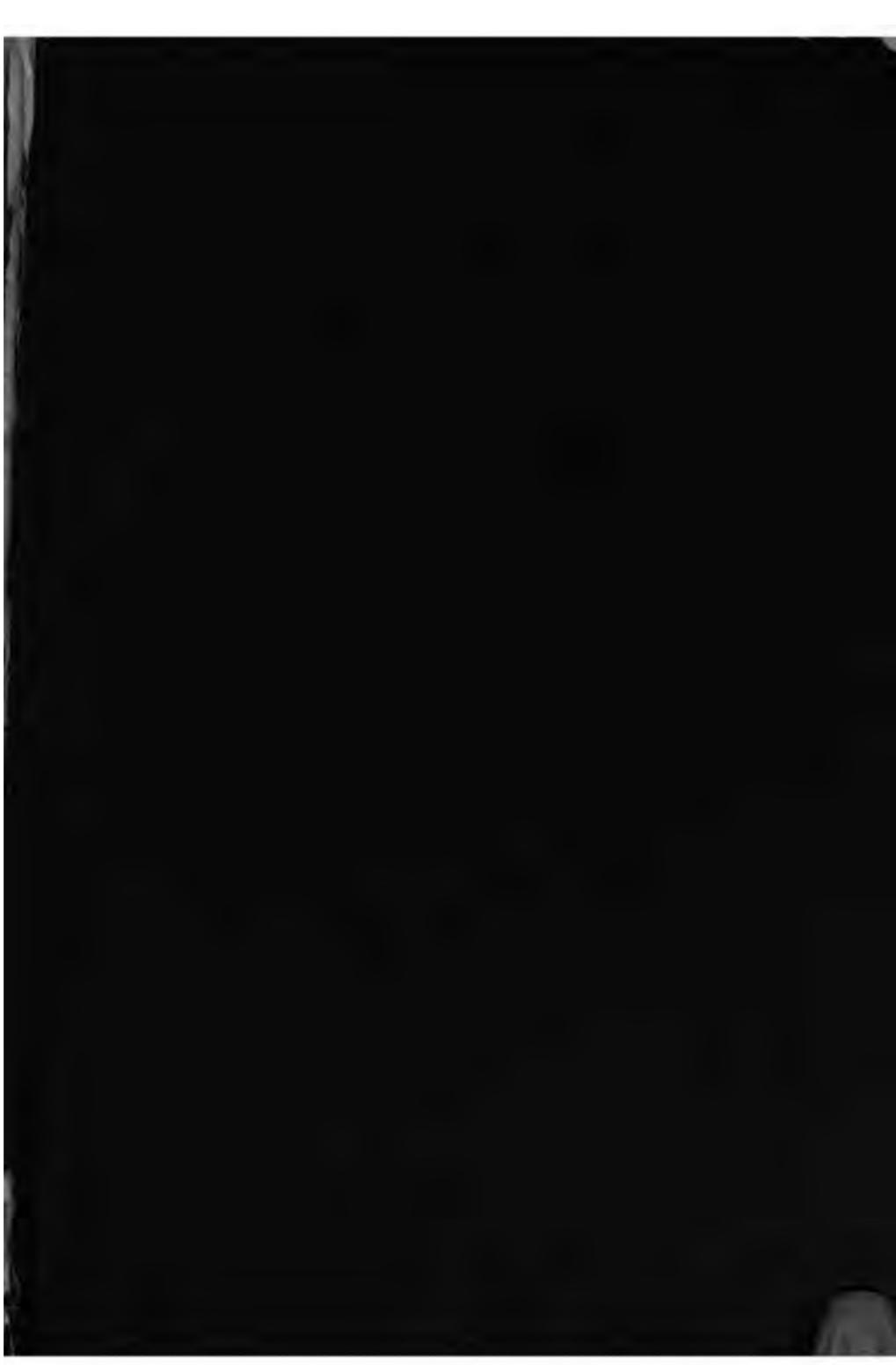
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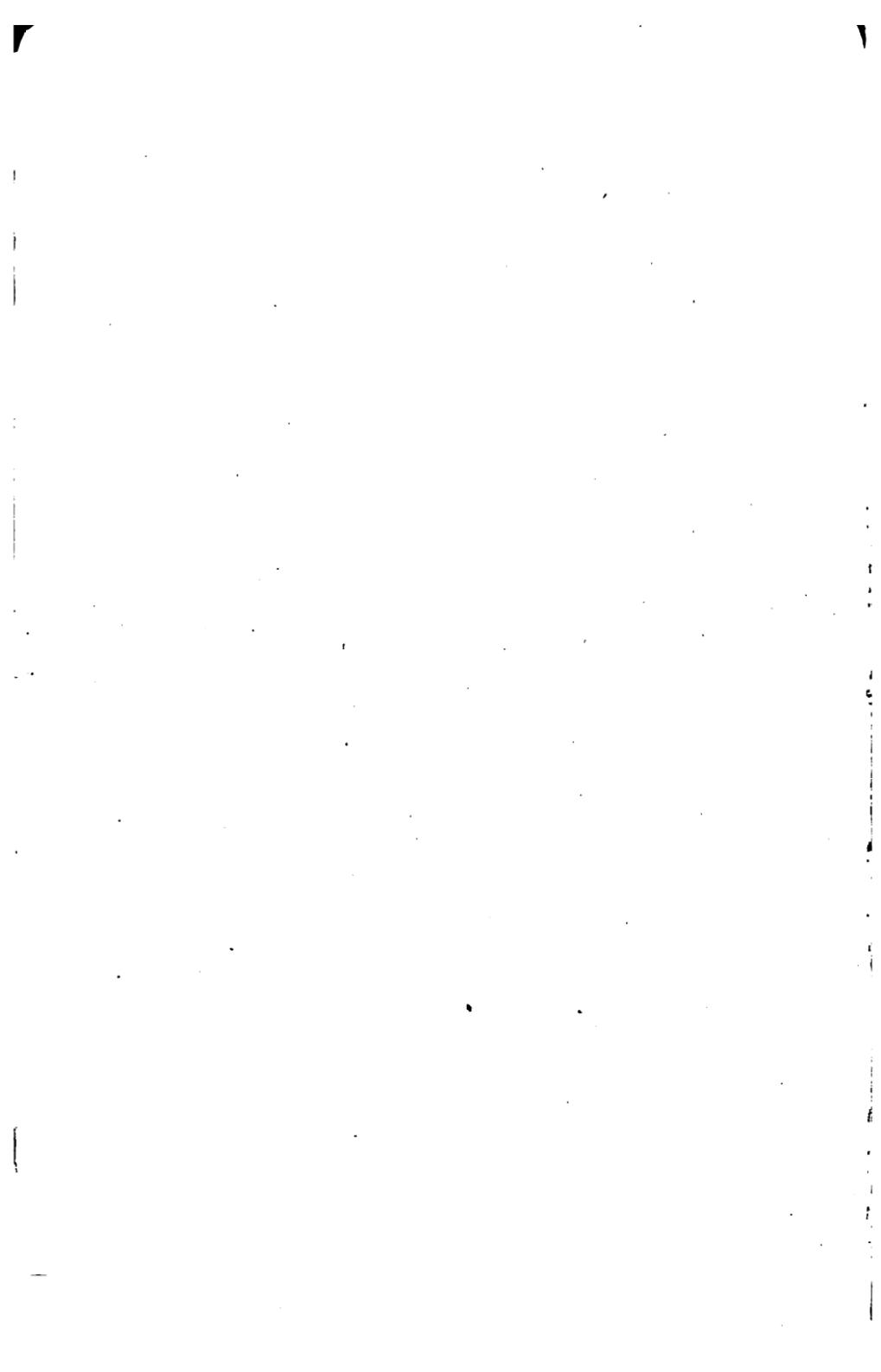
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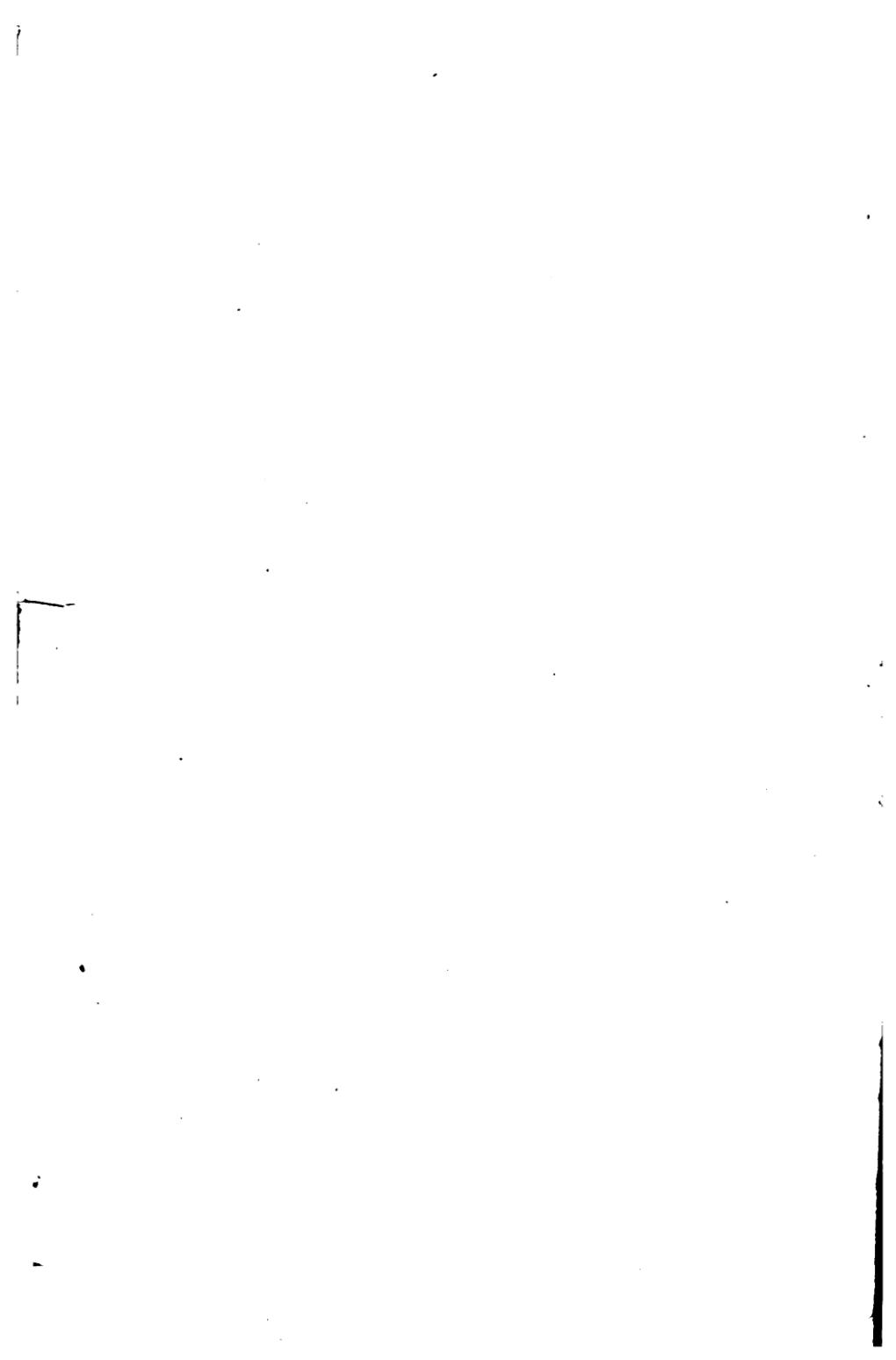
BY

ALEXANDER SOKOLOV

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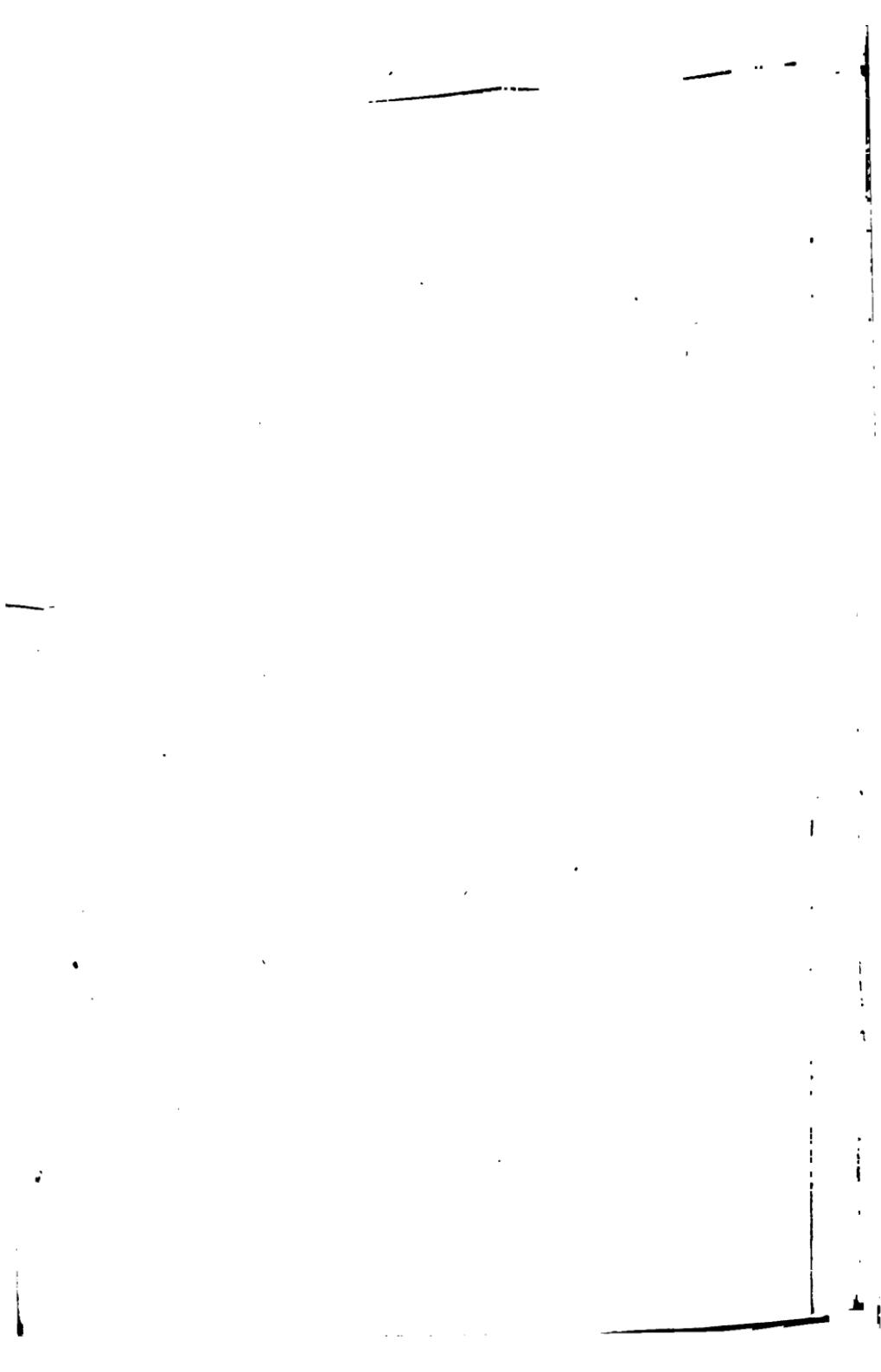
THE PRACTICE OF
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LORENZ OKEN

A BIOGRAPHICAL SKETCH

OR

"IN MEMORIAM" OF THE CENTENARY OF HIS BIRTH
READ BEFORE THE FIFTY-SECOND MEETING OF
THE GERMAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE
AT BADEN-BADEN, SEPTEMBER 20, 1879

BY

ALEXANDER ECKER

PROFESSOR OF ANATOMY AND COMPARATIVE ANATOMY IN THE
UNIVERSITY OF FREIBURG, BADEN

WITH EXPLANATORY NOTES
SELECTIONS FROM OKEN'S CORRESPONDENCE
AND A PORTRAIT OF THE PROFESSOR

FROM THE GERMAN BY

ALFRED TULK



LONDON

KEGAN PAUL, TRENCH & CO., I, PATERNOSTER SQUARE

1883,

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TO

PROFESSOR RICHARD OWEN,

WITH THE

TRANSLATOR'S SINCERE REGARDS.



TRANSLATOR'S PREFACE.

IN adding one more, by this translation, to the list of Biographies that now issue so abundantly from the press, the writer has no need to beg the indulgence of the reader as though he were setting before him afresh the story of a life which had in one form or another, whether at home or abroad, been already told. So far indeed is this from being the case as regards the celebrated naturalist Lorenz Oken, that unless we are content to accept as an equivalent for any further details concerning his history a mere summary of his scientific labours such as may be readily found in the columns of an Encyclopædia, what we really know about his life may be said to amount to little or nought. However desirable it might be to learn something about the *man* himself, his origin and early education, the incidents of his career as determined by the times and circumstances into which his lot was cast, the nature of his disposition or temperament when brought into conflict with the trials and troubles of everyday life, we shall soon discover that as regards any source of information upon these particulars a gap has hitherto existed which, prior to the publication of the present sketch by Alexander

Ecker, no one even of his own countrymen had attempted to fill up.

And yet, if only for one reason involving an act of justice to Oken's memory, it was high time and befitting that this task should sooner or later be done. Reticent as most of his biographers have been upon the facts of his daily life, they have, generally speaking, made some passing allusion to the fact of Oken having incurred more than once the displeasure of the German governments by his *liberal* political opinions, and so been driven to seek an asylum of refuge for the remaining years of his life upon the alien soil of Switzerland. So far so good as to the bare record of a fact; but unfortunately for Oken's reputation there the matter has been suffered to rest, not a word of explanation or comment being offered by his quasi-biographers as to the why and wherefore of the above episode in his existence. The consequences of such neglect upon their part may be readily surmised. Epithets such as *liberal*, when applied more especially to the opinions of a scientific thinker and bandied loosely about from one generation to another, come easily enough to be interpreted at last into meaning anything or everything of a subversive and dangerous character; and so, unless a cloud of covert suspicion was to be left hanging over the name of Oken, here indeed was a point in his career which it became a positive duty should be sufficiently cleared up. Thanks to Professor Ecker, all illusions and misunderstandings about Oken have now been effectually dispelled, and we have an opportunity given us for the first time of discerning what *manner of man* he actually was, and how by dint of character and

strength of will he came to leave no slight reflective mark upon the age in which he lived and the strange medley of his country's social and political conditions.

Then, again, as to the light in which his conduct as a citizen is to be regarded, upon this too Ecker has furnished us with sufficient material for our judgment. We are now taught to look upon Oken no longer in the light of a "rabid demagogue" such as detective Kämptz of Berlin held him and other worthy professors and students at Jena to have been, but first and foremost as a true patriot, alive to raise his voice in the hour of his country's greatest danger and humiliation; while lastly, upon all questions of government he was strictly monarchical and conservative in the constitutional sense, though with a keen eye to everything that savoured of big or petty tyranny and injustice of any sort or kind whatever. It is only needful for us to consult the graphic and soul-stirring pages of the "*Neue Bewaffnung, neues Frankreich, neues Deutschland*," referred to in the text, to become fully and additionally convinced of the truth of our author's statements. They will be found replete with practical suggestions, military, strategic, and of every other possible kind for the emancipation, unification, and reconstitution of the Fatherland under one common head or Emperor; and if to their study and perusal the reader may perchance have come prepossessed with sundry notions about Oken, as being at best but a theorist or kind of mystical philosopher and speculator in the realms of nature, he will in the end feel obliged to acknowledge that with him, as with other gifted and deep thinking minds, there is always more than one side to the intelligence and character which, in order to form a just

estimate of the man himself, must be constantly kept in view. Enough, however, of these introductory remarks, for standing as Ecker's "In Memoriam" does *per se*, it is best to leave its kindly and judicious pages to speak for themselves. Meanwhile the reader will be at no loss to discern the motives which have induced the translator to put the same into an English dress.

As to what has been written in our own country respecting Professor Oken, this has been chiefly from a scientific or critical point of view. First and foremost stands the elaborate article by Richard Owen in the "Encyclopædia Britannica," and this, having been penned by one who knew and valued him personally, sets before the reader distinctly the claims of Oken *versus* Goethe in reference to the homologies of the cranial bones. Again, in the *Athenæum*, October, 1847, and in the same journal for September, 1851, will be found two carefully written reviews, the one apropos of the printing by the Ray Society of a translation of his "Philosophy of Nature," the other an appreciative "In Memoriam" upon the occasion of his death at Zürich in 1851. In naming the above articles as channels of information, we consider that we have pretty well exhausted all the literature upon Oken that exists among ourselves, *i.e.* all that is worthy of any mention.

It remains only for the translator now to state distinctly what has been done with the German text of Ecker's "In Memoriam," so as to render it suitable to the wants of the English reader. To begin with, the short sketch of Oken's life as it stands in the original is now before him in its entirety. To this, as originally issued in the columns of a German newspaper (the *Augsburg*

allg. Zeitung) were subsequently added, on the occasion of its separate publication, a supplementary portion consisting of sundry explanatory notes and addenda referring more at large to various circumstances alluded to in the text. From these, however, it has been thought advisable to make a fitting selection, and in doing this we have been guided in the majority of instances by the principle of "Oken loquitur" as really comprising all that is most graphic and available for being reproduced. For example, to readers here at home it would be matter of little interest to plod through the legally worded protestations of an Abraham Eichstadt, detailing his big grievances before the Grand Duke and Academy of Jena touching the copyright of his own journal as having been infringed upon by the publication of the *Isis*. Again, in default of more detailed information as to the hidden motives which prompted Kämptz to become so zealous a persecutor of Oken, little would be gained by rendering into English his diplomatic but truly insolent letter addressed to the latter, bearing date March, 1817. What Oken thought of this Kämptz, what of Eichstadt, what of Schmalz, Cöln, Janke, Ascher, and Ancillon, is best summed up in the following brief notice of them published by him in the *Isis* of 1817:—"The satirical poem sent me upon these individuals is too full of life and reality to be inserted in the *Isis*; besides, it would be conferring too much honour on such commonplace persons ('*abgedroschenen Leuten*') to find themselves noticed even in rhyme." There are few also who would care to be inducted into all the *pros* and *cons* apropos of the question discussed by the press as to Oken being trans-

ferred, instead of summoned, from Munich to Würzburg. Suffice it to say that here as well as elsewhere the German text is crowded with dates of, and references to documents, none of which could be easily referred to *in extenso*, seeing that the *Isis* journal is accessible to no one except in public libraries, and still less such papers as the *Suabian Mercury*, the *Inland*, and others. And so it comes to pass that Professor Ecker's work will be found for the above reasons to be shorn, to a certain extent, of some of its very discreet proportions, for doing which, however, the translator trusts that by the learned author himself he will be graciously excused.

There remains Oken's letters to be mentioned, which are, unfortunately, as our author truly observes, but too few in number. These, with here and there some very trifling omission of passages, the meaning of which, owing to the context, is doubtful or obscure, are all set down according to the dates on which they were written. It has been thought advisable to give also the correspondence, minus only some very trifling curtailment, of men of different degrees of eminence with the professor. The letters are, it is true, for the most part only frank and gossipy, but still, as showing the thoroughly cordial estimation in which Oken was held by friends and colleagues, and also as casting in some cases a light upon the state of biological science in Germany during the first quarter of the present century, it has been thought that they may not prove wholly devoid of interest. The concluding page of the original is made up of a photographic fac-simile of the memorable No. 195 of the *Isis*, containing Oken's address to the students on the Wartburg. This, as constituting an important turn-

ing-point in the professor's life at Jena, has been here rendered in full.

As regards finally the portrait of the professor, photographed from an oil painting in the possession of his grandson, Herr Reuss, an attempt is here made at a copy of this by the autotypic process from the original negative supplied through the kindness of Köch, the Stuttgart publisher of Ecker's book. This, the translator feels assured, from his own treasured and intimate recollections of Professor Oken at Zürich, during the summer of 1848, must have been in its day a true and striking representation; nay, more, if it be compared with the metallic profile upon his tablet at Jena, or with other portraits of different dates and degrees of merit, it is marvellous to discern how little change was wrought by time and the vicissitudes of an active life upon features so clean cut and chiselled, so to speak, as Oken's were. His eyes to the last, it may be truly said, remained full of their wonted fire and energy, while his close-knit mouth and lips were expressive of that indomitable will which, but that circumstances stood, as he himself tells us, in the way of his early military inclinations and mathematical tastes, might have borne good fruit for his own country in the exercise of the noble art of defence, to the study of which—as he most justly observes in the "*Neue Bewaffnung*"—"every science and every art that can be dreamt of must lend a helping hand."

Few there are, we may add, who have known Oken personally, but must, with the present writer, have carried away with them a deep feeling of respect and loving veneration for one, who, quite apart from his

rare intellectual gifts, was to all intents and purposes a sincere, generous, and noble-hearted man. Enemies indeed he made in the course of his life, and of these, as we now learn, at head-quarters not a few ; but who, one may well ask, could well have helped doing this who, with a temperament like his, so full of fire and animation, was yet withal so zealously studious in all his actions of what is just and honourable, so scornful of everything that savoured of despotism or abuse? When we find Oken, in one of his letters of 1805, complaining of the unpalatable fare which he met with throughout Saxony, it is well for us to bear in mind also that still larger repugnance which he must have felt towards the plenum of the German *Diet* as it *then* existed—a something which to him could have had no conceivable relish, but was in like manner simply to be *gulped* down !

TUNBRIDGE WELLS, 1883.

P R E F A C E.

As regards the occasion and also the motives which induced me to deliver the following discourse all that is needful will be found mentioned in the text itself. I must, however, distinctly state that, in taking upon myself this task, my only object has been to collect what biographical materials already existed, though of a very scattered, meagre, and often incorrect character, to set these all right, and amplify them by the addition of new information. As to any criticism of Oken's works, and above all of his philosophical writings, this was a topic which lay quite beyond the pale of my endeavours.

The discourse appeared for the first time, just as it was written, in the supplementary columns of the *Augsburg allgemeine Zeitung*, September 30th to October 1st, 1879, Nos. 271-274. As a matter of course much had to be curtailed upon oral delivery for the sake of saving time.

As I was obliged in preparing this discourse to work through a considerable amount of hitherto unused historical material, which could not well have been incorporated with the text, the thought occurred to me that it would be better, instead of consigning all this to

oblivion, to make a suitable selection from the same and so publish it. Invitations from different quarters, joined to friendly advances made by my publisher, served to dissipate any scruples I might have entertained upon the matter, and so originated the present book. To the discourse, which has been carefully revised, are now added numerous explanatory notes as well as contributions from Oken's correspondence, which will, in my opinion, serve to throw much light not only upon the character of the man himself, but also upon that of the times in which he lived.

Unfortunately, the number of Oken's letters is but small: the request made by me in the *Augsb. allg. Zeitung* and the *Literar. Central-blatt* for the loan of any such by their possessors has been responded to by only a few persons, to whom I here tender my best thanks. In the selection which I have made of letters addressed to Oken, for which I am indebted to the kindness of his grandson, Herr Reuss, of Bamberg, I have endeavoured, both as regards times and persons, to furnish the greatest variety without at the same time exceeding the limits originally proposed for this work. If some persons should consider that I have given too much space to the delineation of Oken's relations to the University of Freiburg, I must beg them not to ascribe this exclusively to my local patriotism, though, as a feeling, I will not deny having this, but to bear in mind that it was precisely as regards this period of Oken's studies that the least was known—seeing that all former biographers make no mention of Freiburg, and only allude to his

having studied in Würzburg and Göttingen—and so to regard my additions upon this score as being fully justified.

The portrait, prefixed to the work, is from an oil painting in the possession of Herr Reuss, and represents him as somewhere between his thirty-fourth and thirty-eighth years, the period of his greatest activity as a scientific worker in Jena, and is, so far as I am able to judge, an excellent likeness.

The addition too of a photographic fac-simile of No. 195, of the year 1817, of the *Isis*, which was during Oken's lifetime so thoroughly destroyed that it is to be found only in a few German libraries, will I hope prove no less welcome; and so may this little book commend itself to the kindly and indulgent reception of all friends of the professor.

ALEXANDER ECKER.

FREIBURG IM BADEN,
Easter Sunday, 1880.



HONOURABLE PRESIDENT AND GENTLEMEN,

A hundred years have elapsed, on August 1st, 1879, since the day when, in a poor little village, not many miles from here, was born the man whose lot it was to rouse into action the latent thoughts of Germans about a Scientific Association. It may very well therefore be regarded as a debt of gratitude, that in the presence of this year's assembly, which now holds its fifty-second anniversary, a word of recollection should be bestowed upon its founder. As, however, a special request to do this could not proceed from the business part of the society, it had to be given up to the initiative of an individual like myself, to take upon himself what he regards as the fulfilment of a duty.

It is for this reason that, having been cordially invited by the managing committee to deliver a discourse at one of the general meetings, I have ventured, instead of selecting a topic from my own department, to impose upon myself the far more difficult task of giving expression to our feelings of thankfulness by attempting on this festive occasion to set before you a short biography of the very learned and gallant Oken.

In attempting this, however, you must not expect me to enter into a critical explanation of Oken's scientific

labours ; as for such this would neither be the right time nor place. But even could such preliminary conditions be fulfilled, there would still be wanting the third and most important element, namely, the right man for fulfilling such a task. Oken was in the first place a philosopher, and in the second a naturalist, his "Philosophy of Nature" being a partial manifestation of a general speculative tendency that had got at his time the upper hand of thinkers. It is clear, therefore, that such a task could only be taken at its right value by one who was master both of the history of philosophy and that of the inductive sciences.

Still, if in spite of all this I undertake to speak of Oken, it is to be hoped that what follows may serve to plead in my behalf.

About one fact there can be no doubt : if Oken's fame formerly depended chiefly upon his "Naturphilosophie," it is no longer this which renders him memorable to German science, and to our Association in particular. The stream of time has swept over that period of scientific development, as upon much that preceded it, and has in great measure left not a trace behind. When we read at the present day the pithy, clean-cut sentences in Oken's "Philosophy of Nature," the language seems to come to us out of a remote past as though wafted from the tongues of Egyptian priests.

At a period like the present, when the law of the "Conservation of Energy" has given an entirely new impulse to the physical, and the "Doctrine of Descent" to the morphological sciences, we can only recognize

in Oken's "Nature-philosophy" the historical worth of an important, interesting, and productive phase of development, and to this estimate it may always lay fair claim; for, I am of opinion that if the work in question has been the cause of much mischief, yet that from another point of view it has acted in an uncommonly stimulating and fructifying manner upon the science of to-day.

In the next place, it appeared to me a special duty, as being one of Oken's fellow-countrymen, and teacher in the very college where he made his own university studies, and to which he clung throughout life with so much affection, to say a few words about him in this place above all others.

It may be that on further personal grounds also, some excuse may be made for me, namely, that as a young man I frequently enjoyed Oken's conversation, since, from having been a pupil of my father's in former years, he was in the habit at a later period of staying every now and then in my parents' house; and so I am probably in a position to give a little warmer colouring to my narrative than would have been at the disposal of some one else, however better qualified as a public speaker. Besides, owing to such close relationships, I have been for some time in possession of many letters and notes about Oken, and through the kindness of his grandson, Herr Reuss, legal practitioner in Bamberg, have been able to add to this material in a considerable way.

If, therefore, I may be allowed to look forward to setting before you something new and little known about

Oken, I must still beg of you not to expect of me either a critical view of his writings (for I intend confining myself as far as possible to facts), nor a perfect biography (for the full materials for such are wanting), but that you will kindly accept what little I have to give.

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LORENZ OKEN.

NOT far from the once imperial city of Offenburg, in the fair province of Ortenau, one of the most fruitful tracts of our country, and which up to 1805 belonged to Austria, lies the little Suabian village of Bohlsbach, which originally consisted of only a small chapel dedicated to St. Laurentius, and a few peasant farms. Close to this chapel and the parsonage stands a small cottage built after a fashion like none other in the village, and here was born on the 1st of August, 1779, to Johann Adam Okenfuss its possessor a son, who, out of respect to the saint, was christened Lorenz. The family name of Okenfuss is one of some antiquity in this district, as it is met with in records of the fourteenth century. The father of our Lorenz, Johann Adam, familiarly called "Hans Adele," was, it seems, a short, lively, gossipy little man, gifted in other respects with more than usual intelligence, and who was in the habit of entertaining his fellow villagers not only with tales from the past, but

with prophecies¹ also concerning the future ; but who with all this was in no respect a good or frugal householder.² Not far from Oken's birthplace there stood at the beginning of the present century a pair of stately old lime-trees, which filled the whole village with their sweet scent ; and being girt by oaken benches, served as a resting-place for many pilgrims to the shrine of St. Laurence, who waited here until divine service began, and also as a play-place for the country children. Service being over, it was here that the villagers used to gather together to hear what had been proposed or agreed upon by their little community, and we may feel very sure that if things went on after a somewhat lively fashion upon such occasions, Hans Adele was in his fitting element ; for, like the whole of his race, he was somewhat dogmatical and of a fiery temper ; so much so that it is even now a common saying, " So-and-so will put up with nothing, for he is an Okenfuss."

It was a fortunate circumstance for Lorenz Okenfuss that his primary schooling was entrusted to able hands. Not only was the school teacher—one Joseph Anton von Achern—as was told to me by one of Oken's school-fellows, a man specially fitted for the purpose, who taught, to use his own words, " up to the mark," and was thoroughly versed, too, in land-surveying ; but the pastor, too (as I was informed by his successor, pastor Decker,

¹ Hans Adele, it appears, was in the habit of sitting over a great book and prophesying : one of his familiar sayings was : " If we could only know what our Lord God and the future had in store for us."

² Nothing much is known about the mother, M. Anna Fröhle, except that she was a quiet kind of woman, who died at an early age.

long since deceased, to whom I owe most of these scraps of information), was, it would seem, an earnest kind of man, and one who made good use of the respectable library bequeathed to him by his reverend predecessor (Schwendemann).¹ Upon my asking the same school-fellow whether Lorenz was really a good pupil, he not only clenched his statement in the affirmative, but added that was not to be wondered at, for to begin with Oken had a good head-piece, and then, "to crown all, was constantly tacked on to his instructor."² Into the parsonage, too, the little Lorenz was seen to go in and out daily. With all this, however, he was not exempt from household duties ; and my informant tells me he can best picture to himself the slim little lad as coming out of the woods barefooted at winter time, with black leather knickerbockers on, and a great bundle of wood slung across his shoulders.

It seems that our Lorenz, after his time was up at the school, either in 1789 or '90, was still instructed for several years at the parsonage, and probably in Latin ; while it is evident that the pastor fully recognized the talent of his pupil, as he not only provided him with reading-books, but praised him openly in church ; for,

¹ It appears that this Schwendemann gave instructions to young Oken, but it was pastor Kolmann, in particular, who was his zealous and careful teacher.

² Up to the middle of the year 1780 there was no proper school-house in the village, the school being held in one of the peasants' houses. About this time the community purchased Johann Adam's cabbage garden, which lay next his small tenement, and built thereupon the school-house, so that the family of the Okenfusses and that of the school teacher became near neighbours.

said he, "you are a brave lad, Lorenz; learn something you must, and I will be your helper."¹ Fortunately for young Okenfuss he was already old enough to enter the gymnasium when both the pastor and schoolmaster had succumbed to typhus in Bohlsbach, to which village the corps of Condé had transferred its military hospital.

In the year 1793 Oken—both his parents being dead—entered the Franciscan Gymnasium at Offenburg, where he took his place to begin with in the lowest class, and remained there till the autumn of 1798. In all the notes made of his progress we find his natural capacities depicted as excellent (*ingenium felix*), his industry and progress as remarkable. "Young Okenfuss," writes one of his contemporaries, was "endowed with a mind that lifted him above all his school-fellows, so that it took but little pains to discern that something great would come out of him. His style of speaking upon his first entry into the gymnasium was not that of a village lad, but something precise, definite and clear. With him it may be truly said that the proverb, *pueri puerilia tractant*, found no application. He was seldom in the company of his schoolfellows, and by so much the more was busy with his school and other occupations. He thus passed consistently with himself through all

¹ My informant, Pastor Decker, says in a letter to me that for the fact of Oken being able to study we have to thank only Pastor Kolmann for the zealous pains he took in the matter. "Without his efforts," he adds, "I might, to all intents and purposes, have granted the venerable Oken indulgence in a back room of one of the poorest houses in the village, and on the 11th of August, 1851, have added, by God's appointing, one more pauper's corpse to the burial list."

five classes before leaving Offenburg, and no wonder that he became such a favourite with his instructors."

In 1799 Oken came to what was then called the foundation-school of our town (Baden), but which was subsequently transferred under the title of Lyceum to Rastatt. Where he spent the time between the autumn of 1798 and the Easter of 1799, I am unable to say, though some interruption seems to have taken place in his studies, which is probably to be attributed to a strain upon his monetary resources.¹ In Baden, Oken first began the study of Greek, and here, too, he enjoyed the advantages of excellent instruction in mathematics, physics, and natural history. I have to thank the directors of the Archives at Carlsruhe, for furnishing me with information out of the school registers at Baden, for the years during which Oken studied there ; specification being made in these both of the subjects taught and the progress of the individual scholars. And here,

¹ An anecdote, furnished me by Decker, seems to confirm this conjecture. About this time, Lorenz' brother, Matthias, went one day to purchase a cow in one of the valleys of the Schwarzwald, and is startled by meeting unexpectedly his "student" brother Lorenz. Whence are you coming, and whither going? How is it you are not at your studies? The two brothers conversed a long time together, and finally came to a mutual agreement. Lorenz returns back to Baden-Baden, and Matthias goes home without the cow. He had still in hand the pig's bladder in which were kept the thalers, but these Oken took with him into his "study," not forgetting, however, at a later period, to compensate this "good turn" in a tenfold manner. From this and other occurrences we may well understand how, about this time, his striking talents came even to be felt and acknowledged by his sisters. Thus his sister Theresa used often to tell the story of her good brother being frequently in school at a loss for writing-paper, and how she would gather lambs' lettuces and sell them in Offenburg for a few kreuzers with which to buy paper to bring home with her to Lorenz.

again, as regards Lorenz, the testimonials are throughout excellent.¹

It was in this same school of Baden that the teacher of physics and mathematics, Professor Maier, seems to have worked with great purpose and influence upon the subject of our memorial, and during his whole life he was ever grateful to his teacher for all his instructions. To Maier he dedicates his first essay of any importance, "Abriss des System der Biologie" ("Sketch of a System of Biology"), and in his inaugural discourse as Professor at Jena, we find him apostrophizing the school at Baden as follows :—

"Is it to you, oh lively Baden, thou Jena, so to speak, in the Lyceum, you who first evoked in me a sense of my future destination and gave me courage to carry out my resolutions, is it to you, then, that I must bid an everlasting farewell? Oh, never. It is to you, whom I have left, that I will never cease yearning to return, if only to thank those good men by word of mouth, without whose instructions I should never have been freed from a kind of mental inertia."

So it was that Oken, as you see, came to regard Baden-Baden as his intellectual cradle; and it is by a happy circumstance that we celebrate, in this very town, the centenary festival of his birth.

¹ "Lorenz Okenfuss, of Bohlsbach in Vorderösterreich, is endowed with the best of faculties, is very industrious, makes capital progress in his studies, and, as to moral conduct, leaves nothing to be said against him" (Protocoll., 1800). As to his theses or compositions, judgment runs as follows: "A good and upon the whole very correct development of ideas, almost everywhere evincing a logical connection, and a style, which if not always sufficiently smooth and polished, is still to be commended for its lucidity."

In the autumn of 1800 Lorenz Okenfuss entered the University of Freiburg, and was in November of the same year immatriculated as Student of Medicine under the Prorectorate of the renowned oriental scholar, Hug. Most biographies are chary of giving Freiburg the honour of numbering Oken among its scholars, but readily acknowledge his having studied in Würzburg and Göttingen. The registers, however, of the medical faculty at Freiburg show us that from the time of his immatriculation up to that of his promotion or graduation he belonged uninterruptedly to our university, and attended the lectures of Nueffer, Laumayer, Menziger, Ecker (my father) and others. Here also he earned for himself by his talents and industry the good-will of his teachers, and succeeded in overcoming the obstacles which confronted him through lack of sufficient means. From the second year he stepped into the enjoyment of a scholarship¹ amounting to one hundred and twenty florins yearly; but in other ways, as regards books, etc., he was especially helped forward through the kindness of some of his teachers, while at the same time his great talents gained him admission into many private families, and so were a means of cementing friendships, many of which continued throughout his whole life.² His gratitude

¹ This scholarship was granted to him by the college, Nov. 16th, 1801, or the following reasons :—

1. That Oken was an orphan, without means, *i.e.* a poor man. 2. That his progress in the sciences had been very distinguished, as in all the subjects taught he had stood in the uppermost class *causa eminentia*.

² It may not be out of place here to bear in mind the men and families in whose circle Oken was in the habit of moving during his first residence in Freiburg, as they were certainly not without influence upon the course

towards his *alma mater* was, as we have seen, of a hearty and abiding character, and in the same passage from which I have already quoted he thus expresses his thanks to Freiburg : " Oh thou beloved Fatherland, thou happy Breisgau, thou fair Freiburg—true, I am now parted from thee, but what hast thou not given me ! In my course through life thus far you have guided and protected me firmly upon every side, and well may it be said that he

of his mental development. The twenty years including the turning-point of the last century belong without doubt to the most interesting period in the history of our university. Here was gathered together a small circle of congenial and learned men, belonging and devoted, it is true, to different professions and studies, but all knit by a common love for classical lore. To begin with, there was Jos. Alb. v. Ittner, from 1785-1807 canonary chancellor of the Malthesian order, and from 1807 Curator of the University of Freiburg and Badish ambassador to the Confederation ; next came the poet Jacobi, Professor of Æsthetics ; the well-known Oriental scholar, Leonhard Hug, Professor of Theology in the University of Freiburg ; Baron v. Baden, Councillor of State ; and Dr. A. Ecker, Professor of Surgery and Obstetrics, the father of the present author. It was in the adjoining town of Heitersheim, the episcopal see of the grand prior of the above-named order, and also the dwelling place of Ittner, that this little circle of friends was most frequently in the habit of meeting, and here originated also many of the essays and poems of the above-named men, which appeared subsequently in Jacobi's annual called the " Iris. "

The young and talented Okenfuss, who was always welcome in this circle, took a tender interest in Charlotte, the clever daughter of Ittner ; and actually wrote to her father, September 17, 1807, asking his consent to their union ; this was, however, deferred by the latter at that time, from prudential motives as to means of living, etc. She seems, however, to have found pleasure in the society of the young student of medicine, so that a tacit understanding continued to subsist between them, but for how long I know not. In 1814 Oken married the daughter of the Privy Councillor Stark in Jena ; but still throughout her life Frl. v. Ittner, who never married, remained his true friend, and an interchange of letters continued up to Oken's death. I have often had an opportunity of seeing this lady in the house of my mother, whose friend she was. She lived in Constance, and died there a few years ago at nearly ninety years of age.

who does not get within thy walls a ready feeling for beauty, nature, art and all the friendships and joys of life, will never find it elsewhere. In silence you have nurtured an excellent school, whose pupils are now dispersed over a large country ; and oh, now that you are beginning to come before the world, may you preserve your old homely dignity and recognize in this wish of mine my honest thanks." And not only in words such as these did he discharge the duty of gratitude. When the very existence of the Freiburg University was once, in 1817, seriously threatened, he raised his voice in the *Isis* in so trenchant a manner on its behalf that this very appeal played a prominent part among the accusations that were raised against him in Jena on account of offence having been given to foreign governments, though meanwhile the University of Freiburg has every reason to be thankful to her former scholar for having so bravely entered the lists in her defence.

In July, 1804, Okenfuss passed his doctor's examination, and on September 1 became a graduate under the Prorectorate of the well-known poet, John George Jacobi, who was then Professor of *Æsthetics* in Freiburg. His dissertation (written in German, with the Latin title, *Febris synochalis biliosa cum typo tertiano et complicatione rheumatica*) was deposited among the university records, but was never printed. The work was obviously one undertaken by him as a necessary task ; for meanwhile the studious mind of Lorenz Okenfuss was busy with other matters.

It strikes us as a very strange fact to learn that

in the summer of 1802 (and so in the fourth semester, or six months' term of his medical studies) Okenfuss should, as a medical student of only two years' standing, and at the same time, as we are informed by the registers, attending lectures on physiology and the higher branches of anatomy, have given forth a "Grundriss des Systems der Naturphilosophie" ("A Sketch or Outline of the Philosophy of Nature"). At the end of 1802 appeared at Frankfurt-am-Main a small essay bearing the above-named title, and with the author's name of Oken upon it, without, however, any yearly date of publication, but simply containing a statement at the end, of the work having been "mapped out in the June of 1802," and in this the author already develops his whole system, which sprung, so to speak, ready formed from out his own brains, and was by him worked out and perfected at a later period. In this essay he appeared for the first time as author under the name of Oken, though he still kept up his original name and was in September, 1804, graduated as Dr. Lorenz Okenfuss.¹

¹ Oken's petition for gratuitous admission to the medical examination Protocol of the Faculty, 1803-4.

"MOST WORTHY FACULTY,

"The time has now passed, and the object of your beneficial instruction during my student-years having been attained, I return you most hearty thanks for all this, and trust that you will accept my gratitude at its full value. If I strive to distribute the fruits of your instruction amongst those suffering persons whom I may fall in with at some future period, with the same good results as you have had in view in my education, the thanks will still remain yours. Meanwhile, as to what I am most in want of, that you already know—and I therefore make bold to plead in the humblest manner to my kind instructors, that they may grant me a *gratuitous* admission to the strict examinations for the doctoral degree upon consideration of my first, enjoying a *Sapienzstipendium* which

After Lorenz Oken had taken his degree he left Freiburg and went to Würzburg, where, on the 7th of November, 1804, he was entered as Dr. Lorenz Oken. Here for the first time he changed his name as a civilian, a fact which seems also to have been known in Freiburg.¹ As reasons for taking this step we find him writing later on from Göttingen (1806), "As I was already known to the literary world under the name of Oken, I let this stand, in order to avoid the jokes that were being made upon Okenfuss" = (*Ochsenfuss!*)

In Würzburg Oken remained only one winter term of six months from 1804-5, having during this period attended Döllinger's lectures on Physiology, Köhler's on Materia Medica, and Thomann's on Clinical Medicine. He now wrote his well-known essay upon Generation ("Die Zeugung"), which was published in 1805. Decomposition was there explained as being an organic (morphological) process, a kind of degeneration, catagenesis or analytical reduction of the organic body into its formal elements or infusoria. All higher animals consist presupposes my poverty, and secondly, upon the good testimonials as to studious industry that have been already laid before you.

"Should I be so fortunate as to obtain this last benefit, be assured that I will never cease to regard my worthy teachers as the very foundation of my political existence.

"Yours most respectfully,

"Freiburg, 29th March, 1804."

"L. OKENFUSS.

¹ To this period may be safely referred a little anecdote which I once heard of at home. The fact of his having changed his name, being already known in Freiburg, what did Professor Hug do, with his usual love of jokes and satire, than, on going one day into the room of Ittner's daughter, Oken's young friend, accost her in the following words, which frightened her considerably. "Have you heard, dear Lotte, the sad news, how the good Lorenz has lost his foot?"

therefore of certain primordial beings (*infusoria*) which by generation have united to constitute a new body. When at a later period (in the essay "Über das Universum," 1808) he says "that the first passage or transition from the Inorganic into the Organic is the transformation into a *cell*, which I have called an *Infusorium*," one must acknowledge that by this way of putting the matter before the reader, a prophetic step in anticipation of the Cell doctrine was most decidedly made. Ciliated, contractile, vagrant or migratory cells are certainly not very different morphologically from the structures which Oken thought he must designate as *infusoria*, and even the name of elementary organisms which Brücke has given to cells in general, points to a recognition of the same fact. In a biological sense nothing has survived of this theory, so that when Oken in the last edition of his "*Naturphilosophie*" renews his claim to priority of announcement and says, "this doctrine of the primary molecules or constituent parts of an organic body is now so generally recognized that I need add nothing in its defence," we can at the utmost interpret this as being meant only in the general sense above indicated.

On the 17th of May, 1805, Oken was entered at the University of Göttingen under the Prorectorate of Wrisberg, and appears during the same summer to have entered formally on the office of an academical teacher, for in the winter of 1805-6 we find him already doing duty as a docent or teacher. During this winter he lectured on Biology, as based upon the collective organism of nature, upon the theory of Generation, and

during the summer upon Biology again and Comparative Physiology.¹

The time spent by Oken in Göttingen may be truly regarded as the morphological and developmental period of his labours, for his most important works in this department are referable to this date. Here, and here only, he busied himself constantly with the history of development; and it was in Göttingen that above all appeared his work upon the formation of the intestinal canal in the embryo of Mammalia.

In order to form a just estimate of this work it is necessary to bear in mind that his researches were made without any knowledge of what C. F. Wolff had done in the way of pioneering investigations directed to the same object on the chick; and that, besides, Oken's

¹ Oken's activity as a teacher in Göttingen, so I am informed by my friend Henle, here came to an end. He gave no more lectures in the winter of 1806, but spent the time, as I learn from his letters, in the island of Wangeroog, partly with a view of studying marine animals, and partly from motives of personal economy. The pastor of that place, writing to Oken (November, 1807), says: "It would seem since your departure as though the sea was not so liberal with its products, or the islanders with their chances of procuring them." He had not himself been able to get either the wished-for foetuses of seals and ova of ray-fish, so that it was a source of pleasure to him whenever Oken succeeded in obtaining on the spot, after much search, such valuable curiosities. It was here also that Oken completed his essay upon umbilical herniae. "Write to us soon," says the pastor, "to tell us that the surgical treatise, at which you worked so sedulously during the preceding winter, has been crowned with the honorary medal at Amsterdam. For I fully expect to hear that you have won the prize." It would appear, too, from the same letter, that Oken must there have busied himself with medical practice. It is said, in conclusion, referring to different patients: "God grant that we poor islanders may keep well through this winter, for, not having amongst us the humane and unselfish Oken, we shall have double need of health."

labours were made upon the far more difficult embryo of Mammalia. His investigations appeared in 1806 under the title "Oken und Kieser's Contributions to Comparative Zoology, Anatomy and Physiology," Bamberg and Würzburg, 1806, 4to. It was not until 1812 that Wolff's labours were made known in Germany through a translation by Meckel, while in 1816 and 1817 appeared for the first time Pander's work, which carried out and substantiated the statements made by Wolff.

The general drift of the above-mentioned work by Oken has been, and is still in more ways than one, undervalued. The far-reaching conclusions or general propositions drawn from his investigations by Oken, have been a reason for discrediting the matter-of-fact foundations on which these were sought to be laid. Oken it was, who first demonstrated the morphological resemblance between the vitelline sack and the umbilical vesicle of the Mammalia, and the communication of the intestine with the cavity of the umbilical vesicle, as it lay extraneous to the body of the embryo. But, as instead of saying, both intestine and umbilical vesicle are products of one and the same structure—the entoderm—he represented the matter as though the intestine originated wholly from without the body of the embryo, and so grew both upwards and downwards into the latter, the above-named result even came to be called in question. It is well, therefore, in this place to remind the reader of the judgment passed upon Oken's labours by one whose critical ability it would be hard to deny—namely, by Von Baer ("Ueber Entwicklungsgeschichte

der Thiere," etc., Königsberg, 1828, Vorwort, p. xvii.). "The most stupid kind of criticism has, he says, been expended upon Oken's investigations, and has never ceased to involve in contradictions the general results at which he arrived, so that it seems as though no one would, if they could, acknowledge the value of his direct observations. Now, it so happens, that the latter constitute the most intimate investigations that have hitherto been made upon the embryology of the Mammalia, and even the general conclusions, drawn from them, though now proved to be in great part erroneous, have yet contributed to promote the knowledge of embryology by bringing naturalists to a more distinct understanding as regards the facts themselves. Thus, highly even as I value the information furnished by Dutrochet and Cuvier, upon the development of the mammalia, it still seems to me an undeniable fact that Oken's investigations must be viewed as the turning-point towards a more correct knowledge of the Mammalian ovum." To the above Baer, in thus reminding the reader of the fate of Oken's endeavours, adds a request "that his own successors, who must necessarily be his judges, may constantly draw a line of discrimination between his account of the developmental history of the chick and the conclusions he has built upon it."¹ Some further anatomical investiga-

¹ Oken had, in the above-mentioned essay, with a view of proving that the intestines develop from without *inwards* into the body of the embryo, laid special weight on the fact that for some time a portion of the intestine lies projected from out the abdominal cavity into the umbilical cord, so that all embryos must of necessity be *born* with an umbilical hernia. When, therefore, a prize was instituted by the Monnikhoffisch institution in

tions made by Himly and Osiander before the Scientific Society were partly communicated by Oken, after he had become their assistant. It is evident, from different letters directed about this period to Göttingen, that, though his lectures were well attended, matters fared but very disagreeably with Oken at that place, and kindled in him the longing to revisit his home, and the hope of there realizing sooner whatever object he might have had in view. He made application in the first place (Göttingen, Feb. 20th, 1806) to the Elector Karl Friederich, the then liege lord of his native Ortenau (which, though formerly Austrian, had in 1805 fallen into the hands of the Badeners), and begs of him that he may be allowed to take some part in the service of his new fatherland ;¹ and, upon reply being made to him

Amsterdam, having for its object the investigation of umbilical hernia, Oken was the right man for explaining the whole matter. And so originated the *Preisschrift über die Entstehung u. Heilung der Nabel-brüche*, v. Dr. Oken, Landshut, 1810, 8vo. The essay is divided into an anatomico-physiological part, which is essentially a repetition of his observations upon the origin of the intestine ; and upon this basis is built up a second and third pathological and therapeutical division, so that the whole subject is regarded in an exhaustive manner or from every point of view.

¹ "TO THE ELECTOR KARL FRIEDERICH.

"Time has, your serene Highness, brought with it an occasion which has long been wished for on my part—to wit, the pleasure of laying my homage, as a subject, at the feet of your Electoral Highness. My fatherland is Ortenau, which, having exchanged its doubtful and shifting destinies for the settled peace of the Baden territory, must now take its part in the noble fortunes of that province. I have, however, long held in honour these States as being my true fatherland, and those alone to which I have to be thankful for having fostered in me the first germ and development of my tastes for natural history and medicine. To the Lyceum at Baden-Baden, so wisely organized by your Highness, I am indebted for instructions in philosophy, physics, and natural history, and for having reached the point at which I at present stand. As my own fatherland

that it was not easy to see from his proposal whether he merely wanted admission among the candidates for provincial practice or an appointment to some academy, he laid down his wishes with all due precision in a proposal presented to the trustee-office of the university in Carlsruhe.¹ Whether any resolution was too small to furnish me with the means of gaining a living in case I devoted myself to the taste for science and for academical life which I had inherited from Baden, I determined upon seeking satisfaction for my endeavours in a foreign land, and this I found in the important library at Göttingen, and in some measure, in the number, by no means small, of the then and there students. It was, however, with an inward feeling of delight that the news reached me of providence having brought me under the gentle rule of your serene Highness, and from that time I have felt determined to return to the source from which I had set out as a scientific man. It is true my merits are not so great as to render me worthy of holding any part among the distinguished men of my fatherland, unless their generous estimate of me comes in to supplement whatever small merits I may happen to possess by looking upon them as a legacy of promise for the future. The only reason, combined with a sense of duty, that should induce an individual to give himself up to the service of an alien, is being dismissed from his own fatherland, and this, not having been my case, I can, whilst thanking you in the name of my scientific labours for benefits received, but await the decision of my supreme sovereign as to how far my wishes to be of some service to my own country may chime in with other circumstances and decrees of state.

"Respectfully,

"*Göttingen, 20th of February, 1806.*"

"OKEN, DR. LEGENS.

¹ In a letter addressed to the Guardians of the University he says further, in reply to the above question, "that, since from his first scientific years whilst studying medicine, graduating, and supporting himself in a foreign land, all his time had been occupied with natural history, comparative anatomy, and physiology, and that the latter had been the principal subject of his lectures at the Göttingen University, he can only venture to sue for an appointment to the same departments of knowledge in his new fatherland, as being the only ones to which he had hitherto devoted his life, and so should continue to do to the very end. The love of my fatherland forbids my asking for any other kind of service, which I could fulfil merely from a sense of duty, and not from natural impulse, and so be occupying a place which some one else would manage much

come to upon the strength of these proposals is a point of which I know nothing. It appears, however, that our young countryman was not lost sight of in Carlsruhe, as is evident from a letter of his friend Ittner to Oken in 1809. One fact, however, is certain, that Oken was very near giving up his academical or professional career, and devoting himself to practice. In writing to one of the home authorities, he mentions how he had barely been able to maintain himself in Göttingen with the strictest economy

better, while perhaps another person, for the very same reason, might have gained the post around which the pivot of my life turns, whatever, in other respects, may be its circumstances. As therefore I feel confidence in myself as regards the above-named departments, I can only pray my country to grant me some post in its university. Testimonials as to my first years of study are to be had of Professor Maier, at Baden. My first attempts as an author are to be found in my 'Theory of the Senses,' and the classification of animals as based upon the maximum degree of development of these organs, and in the next place in my treatise 'On Generation,' of which, unfortunately, I possess no copy at present to lay before the curatorium. I have recourse, therefore, to my funded stock, if I may so call it, and will send by-and-by my 'Origin of the Intestine of the Embryo from within the umbilicus and external to the abdomen,' which has been already noticed in the 'Göttinger gelehrte Anzeigen,' November 9th, 1805, and is now being printed separately, so that I may in some measure discharge the duty of rendering some account of the tendency of my writings, and especially of this last, as being the standard measure of what the future may bring forth.

"If it should please the honourable curatorium to regard me as worthy of a post in the above-named departments in the high school, and so ensure the fulfilment of my desire of doing my duty at no great distance from my beloved fatherland, the first separation from which has always been so painful; why, then, the feeling of gratitude for such a benefit, combined with the natural inclination of such studies, will be to me an unceasing stimulus for exerting all my efforts towards attaining a solution of the important problem set before me, as to how natural history, which has been almost neglected in the rest of Germany, may be made to revive again in my own country, which is so favourably situated as regards this purpose, by its proximity to France.

"*Göttingen, Dec. 3rd, 1806.*"

"OKEN."

as to means ; that he had not yet paid the fees for formal admission to his faculty ; and that, without doing this, he could only by special favour be allowed to lecture for another six months. It is his hope, he says, that he may now find means wherewith to help himself on ; but in case of his not being entered upon the catalogue of lecturers by the ensuing summer, he must, to his regret, lay aside all his plans for work requiring special industry, and, come what may as a future resource, give up for the present his academical career.¹

¹ "I have refrained up to the present from writing to gentlemen like yourselves in authority for fear of being thought troublesome, but now look upon it as high time, that after the lapse of a year and a half, some account should be rendered to my benefactors as to the reasons for my present residence, and also my plans for the future. I know that you have always cared for me in a fatherly way, that you still do, and will continue to do so even when I have reached the limits to which, by the exercise of my own independent powers, I may attain. You know, my benefactors, how to me a literary life has been always the highest point to which I have striven. In Würzburg I found no possible way of attaining to this, and I therefore went to Göttingen, where I have since contrived to live by observing the strictest economy. I have no disposition towards a practical life, and can find no other opportunity open to me in my fatherland than that of literary employment. As, however, I must first earn the confidence of my country before I can lay claim to it, I found it best to pass the years of my novitiate in Göttingen and here become—since it is the most celebrated and well appointed academy—a Dr. Legens. *As I was here known among literary circles by the name of Oken (for I had dropped the final syllable of my surname to avoid the jokes that were being made upon it), I found no difficulties, and I now give lectures to two colleges before an audience with which I may very fairly be contented.*

"I have indeed been very satisfied with my residence here, as I have been enabled to acquire in the library, the like of which I find nowhere else, ample materials, which I may some day work out in my own country, upon natural history, comparative anatomy, and physiology, these being the sciences to which I have devoted myself, and which I can so well undertake to teach ; while at the same time I always visit the hospital for

Fortunately, a lucky chance turned the tide of events. The Grand Ducal Government at Weimar issued a decree, bearing date July 30, 1807, summoning Dr. Oken as one already recommended by his various zoological and other learned writings to be Professor Medicinæ Extra-ordinarius to the whole Academy at Jena.

Oken entered upon his professor's post at Jena with an Inaugural Discourse, which may, without any risk of contradiction, be truly characterized as one of the most important contributions he has made to anatomical science. In this discourse he developed an uncommonly fruitful idea, which may truly be said to have given a

the sake of physiology, which cannot well dispense with a study of the body under morbid conditions.

" Properly speaking, my main object has not been so much lecturing as being known in the prelector's catalogue, for lecturing takes up a great deal of time, especially when one first begins it, and having been once entered upon it must be gone on with. It is always important for a stranger to stand in the prelector's catalogue at Göttingen, and so I intend sparing no pains to get put there in the future. I have not as yet paid the taxes, and without having done this, I can only, by special favour, lecture for a half year; from my fatherland I expect nothing under its present depressed circumstances, so that it cannot be said that I am begging support of any one in authority, but simply telling him quite openly what my position is. I constantly live in hopes of finding some sources out of which I may help myself to a certain degree, and if I only remain here until times of peace, I do not think that I shall have made any miscalculation. Besides, it is cheaper to live here than in Würzburg; my day's expenses do not amount to a gulden, and so I can manage to hold out longer, especially as I am paid by my auditors.

" If I do not come into the catalogue next summer, I will remain here some weeks, and then, alas! having laid aside all plans for earnest work do, what I must needs do, give up the academical life. Such is my present position; and if, meanwhile, I have begged for advice, whether of approval or disapproval, from a high authority, the acceptance by the latter of this prayer of mine is some consolation for all to which the future—" (the rest of this sentence is illegible).

new direction to the doctrine of the Morphology of the skeleton, and which he designated by the term "Bein philosophie," or "Philosophy of the Bones." The essay which embodies the discourse in question is entitled "Über die Bedeutung der Schädelknochen" ("On the Interpretation of the Cranial Bones"), or, in other words, the demonstration of the Morphological Homology subsisting between the cranium and vertebral column. For other reasons, however, than the fact of its treating of a special department of science, this essay is more widely known as involving a question of priority of discovery between Oken and Goethe, which has been probably not wholly devoid of influence on its subsequent destinies. It would, however, far exceed the appointed limits of the present sketch if I were to enter upon a critical discussion of this much-vexed question; so that I will but confine myself to the statement of a few facts. Now, that Oken was not far from entertaining the thought as to the homology between the skull and vertebral column is already evident from his earlier writings. Considering the statement made (already in 1802) that the senses are only repetitions of inferior organs, it required no great step in advance to declare the cranial bones to be but repetitions of those of the trunk. The only thing wanting was the practical illustration of this notion, and for this Oken had not long to wait. In August, 1806, he made a journey through the Harz, along with two students, and on coming to Ilsenstein found lying before him the bleached skull of a deer, which, at the first glance, struck him through the striking resemblance

borne by the basis of the skull to the vertebral column. Oken pictures to us this moment of his existence in his brief but graphic mode of expression. "Uplifted, turned about, glanced at intently, and the thing was done. It is a vertebral column, and the idea flashed like lightning through my frame, and lo and behold from this time forth the cranium *is* a vertebral column!" Oken, of course, sent a copy of his programme to Goethe, who was then Curator of the University, and "this discovery," writes Oken, "has so pleased him, that he invited me to come and spend the Easter holidays for eight days with him at Weimar; and this I did." What were the particular topics of conversation or discussion during this visit, no one knows.¹ Not a word from Oken upon the subject, nor from Goethe either, who, strangely enough (so far as I know), never mentions the name of Oken, though he would follow out with interest the contents of minor publications whenever they touched upon any departments of science which he could call his own. In 1824 Goethe comes forward in his "Beiträgen zur Morphologie" for the first time, with a declaration of his rights of priority, since he there declares that so far back as 1791 he had picked up a weather-beaten sheep's head near the Lido in Venice, in which, upon lifting it up from the sands, he recognized the vertebral composition of the cranium, and there remarks, without making so much as

¹ Düntzer indeed says (Aus Goethe's Freundeskreise, 1868), apropos of this meeting, that *no doubt* Goethe took the opportunity of telling Oken that he had himself made the discovery about the cranial bones in the year 1790; but, be it observed, the author brings forward not a single fact in support of this *a priori* statement.

mention of Oken's name, that in the year 1807 this same doctrine had been "thrust upon the public in a disorderly and imperfect manner." If at the present hour there is no occasion to doubt the truth of Goethe's testimony,¹ it is on the other hand a matter beyond all question that Oken made his discovery in a perfectly independent way; and that to him, too, belongs the special merit of having proved by demonstration the idea, and so introduced it into the scientific world. And that, so the whole matter stands, is not to be wondered at, for the thought was floating about, so to speak, "in the air," and if neither Oken nor Goethe had hit upon it, some one else assuredly would. In any case, the over-zealous admirers of Goethe have done a great wrong in accusing Oken of plagiarism, and we cannot take it ill of the latter

¹ In a letter to Herder's wife from Venice, dated May 8th, 1790, Goethe tells her "how by the lucky accident of his servant picking up a piece of an animal's skull in the Jewish cemetery, from off the sands of the Lido, and making some joke upon it, he had made a great step in the elucidation of animal structure, and felt as though he now stood before another portal in Science simply waiting some turn of good luck that should hand him the key to open it with." "This great step must surely," says Ecker, "be the vertebral theory of the skull with which he declares in 1820 that he had been already acquainted for thirty years."

[How far, however, he had succeeded during all that lengthy period in mastering the idea is best told in his own words. He says, "he first of all recognized three vertebrae, viz. the hindermost ones, and then six, but acknowledges at the same time that upon attempting to carry out the idea into detail he was unable to arrive at any satisfactory conclusions, and felt himself obliged to leave the whole matter for further inquiry in the hands of confidential friends." So much for Goethe's pretensions. As regards the whole question the reader cannot do better than consult the "Report on the Vertebrate Skeleton," by Professor Owen, 1847, where, at p. 244, he will find some admirable reasons expressed for regarding OKEN in the light of the true and original discoverer.—Tr.]

if he has given strong vent to his indignation against Goethe, as will be seen further on. It is to be regretted that Oken injured the value of his work considerably by making too sweeping conclusions from it, seeing that he lets the whole skeleton be finally made up of vertebræ, and at the end of the very first sentence concludes by saying that "the whole man is but a vertebra." Still, with all these drawbacks, the work done will always possess a permanent value. For though very recently the vertebral theory of the bony cranium has been several times nicknamed an antiquated hypothesis, and an appeal been made to the cartilaginous capsule as that which can alone determine the morphology of the brain-case, still there are not wanting those of yesterday, as it were, who still acknowledge the original view by Oken of the cranial homologies as being amply justified.

In November, 1811, Oken received a confidential communication from the Mecklenburgh Government wishing to know if he felt inclined to accept a call to the University of Rostock. We learn from the *Isis* (1817, Nos. 21, 22, and so on), that both the medical faculty as well as the rector and council had declared themselves opposed to this appointment, as they did not want any philosophers (*Naturphilosophen*) amongst them ; and that the government in a report made to the duke added, that among those proposed for the situation regard must first be paid to the residents in Rostock, "as in this way travelling expenses would be spared!" Unfortunately for Oken he has in the journal above-mentioned expressed himself in the rudest manner con-

cerning this ultimatum ; and by adding a few questionable vignettes such as of asses' heads alongside the names of the members of the Rostock faculty, done far more injury than benefit to his cause. He accordingly remained in Jena, and in 1812 (besides receiving an addition to his salary, of one hundred thalers) obtained, in consideration of the approval which his philosophical and natural history lectures had met with, an ordinary Honorary Professorship in the Philosophical Faculty ; as also permission to call himself Professor of Natural History.¹ Oken now, as belonging to both faculties, lectured upon Physiophilosophy, Physiology, both in health and disease, Natural History, Zoology, Botany and Geognosy.

Oken's activity as lecturer and teacher at the University of Jena, from the year 1807 up to its unexpected interruption in 1819, was one of the most successful character. As a *docent*, or teacher, he was one of a brilliant kind, and acted as an intellectual stimulant to an unusual degree ; for in Jena he roused such a zeal for natural history that his lectures soon came to be

¹ In a letter of the 3rd of January, 1812, the Minister, Von Voigt, requests Oken to furnish him with a proximate estimate of what he wishes to have for bettering his position in Jena ; and in a second letter, bearing date January 25, 1812, expresses his regret that he is not in a position to offer any counterpoise to the Rostock tender of a thousand thalers. On the 14th of February, 1812, Oken got an addition to his salary of a hundred thalers, and upon this Voigt observes, "I am glad that your frugal habits and modest discretion have set your mind at rest as to what *may* happen. Possibly, times and circumstances *may* better themselves. As regards your ordinary professorship of natural history, notice has been given to the academy. The remaining courts will also attend to the matter, seeing that a move has already been made in that direction by the chancellor."

the best attended in the university. Huschke says of him, "Bizarre as was frequently his style, yet withal so lively and eloquent was his delivery, that the pupils soon came to swear readily by the very words of their honoured master. Avoiding all diffuseness of diction, he acted as a constant stimulant, affording not only material for observation, but also for thought." In addition to this he was an exceedingly industrious teacher, one who never allowed his energies to flag, and even at an advanced age, till within a few weeks of his death, was fresh and young in the pursuit of his vocation.¹

If the time spent at Göttingen may be characterized as the period of Oken's morphological researches, Jena may be aptly described as the place where he laboured most at his works upon the Philosophy of Nature. It was here that he abandoned more and more the field of inductive investigation, and gave full play to the development of his speculative tendencies. Here originated his most important physiophilosophical essays, such as are most intimately associated with the name of Oken, and have rendered the latter most distinguished in its day.

¹ I can myself bear witness to the earnest spirit in which he pursued his calling. Upon announcing to him my intention of devoting myself to the academical career, one thing among others that he said to me was this, "That you never, no, not even if you were a professor of thirty years' standing, go into a lecture-room unprepared." Now, I have never forgotten this word of warning, and upon one occasion only—showing how rarely such an event happened in my forty years' course of teaching—when I was prevented by pressure of circumstances from observing his precept of previous preparation, I seemed to hear the voice of my father's friend full of reproach to me for what I had done.

Here he published—1. “A first attempt at a Theory of Light, Darkness, Colour and Heat” (Jena, 1808); 2. “Concerning the Universe as a Continuation of the Senses” (1808); 3. “A Programm upon Light and Heat” (1808); 4. “Outlines of a Natural System of the Metals” (1809).

In addition to the above treatises he summed up his method of contemplation in his “Lehrbuch der Naturphilosophie” (1809–11, third edition, 1843). During the same interval appeared also his “Manual of Natural History” (1813–15, six vols.), a work remarkable for its intelligence and learning, and which, properly speaking, has been the first as well as the last substantial book embracing all three kingdoms of nature since the times of Linné.

During his sojourn in Jena was issued also his first political essay, which in more respects than one must serve to rouse our interests at the times in which we now live. In the year 1814, there appeared in Jena (in Cröker’s book-firm), a small treatise bearing the title, “A new Armament, a new France, a new Germany” (“Neue Bewaffnung, neues Frankreich, neues Deutschland”), by Oken, with two copper-plates, and an illustrated map of Germany.

To those who are familiar with Oken’s whole nature and temperament, such as we shall have occasion to depict it further on, it must seem an absolute necessity for him to have been deeply struck by the political and military events of his times, especially by the disgraceful subjection to a foreign yoke, and to have felt at the same time a strong desire to express himself upon such

matters and, wherever possible, to take an active part in them. The treatise consists of two parts, which appeared at different times, and were subsequently issued together. The first part is entitled "The Art of War" ("Zur Kriegskunst"), and was printed in November, 1811. The second part was written in 1813, and in the preface to it, published in November of the same year, Oken tells us that he had, in 1811, given away five copies of the first part to men who were, in 1813, struggling for the liberation of Germany, and one of whom, the worthy Scharnhorst, the originator and organizer of the Prussian army, had already died a hero's death upon the field of battle, "and so become," says Oken, "a victim to our political helplessness." The foul deeds of Davoust, who was at that time trampling upon the necks of his Saxon fellow-countrymen, joined to the advice of Oken's friends, determined him to keep the essay, at first, a secret.

In the first of these essays, bearing, as already remarked, the title "Zur Kriegskunst," we get from Oken the remarkable confession that, from his seventh year upwards, mathematics had been his chief study, and that, but for adverse circumstances, he would at once have devoted himself to the life of a soldier; for, "as regards a man, what can better befit him than the art of defence, before which, whatever he may have done or in future shall do for science, must count literally as naught. In this art all other arts must be united; in this, as a science, all sciences, and in him, who understands how to practise it, every kind of talent."

As regards Oken's suggestions in the "Kriegskunst," I am prepared to say, speaking from the judgment of a competent officer to whom I lent the book for perusal, that though in his frank opinion Oken had set out upon the one hand with sundry very quaint proposals, he had upon the other, so completely, in many respects, hit the nail upon the head, as literally to astonish him. No well-educated modern general, and no modern handbook of field-instructions could add anything to certain military principles laid down by Oken with his accustomed rigour of language, *e.g.* "Not a shot should the soldier fire without taking aim," or, "We get nothing by quick firing if we are not good marksmen;" and, again, in speaking of the cavalry, "This must be the sufficing arm of a general, as it is to serve for everything that requires celerity of action, such as forestalling, traversing and pursuing the enemy." Or again, "Whenever possible, war should never be carried on at different corners of the battle-field; or, to be plain, there should be no dispersion of forces. All compact and knit together—such is the road to victory!"

It is no less remarkable, so I am informed, that Oken should have given utterance to the idea of the soldier being equipped with a rifle, and of air-balloons being at the disposal of the besiegers. Apropos of recommending the old Roman chariot of war, Oken observes, that he was on the track of discovering a piece of mechanism by means of which a chariot could at quick speed be brought and guided upon level ground without the use of horses. That his proposal, too, for providing com-

manders with a metallic speaking trumpet, so as to strengthen the voice, should never have been carried out, is a matter for some surprise to those who are accustomed to parade or drill duties, and know what ill-treatment the upper part of the wind-pipe is liable to in consequence. Above all he expresses himself with the utmost decision in favour of the universal duty of self-defence.

After the foreign yoke had been cast off by the battle of Leipzig, what remained was to build up anew the shattered fabric of German nationality. Upon all sides active spirits were astir; and to Oken, after having already given advice as to war and victory, it seemed incumbent that he, too, should contribute his mite towards the restoration of his country. To this task he devotes the second essay, which falls into two parts, entitled, "Neues Frankreich und neues Deutschland." While in the first of these he considers the means by which France may be rendered harmless to us in the future, in the second he puts forward his claim for the political reconstitution of Germany. Now this and many other suggestions have been already fulfilled by the glorious campaign of 1870, and we are now possessors of Alsace Loraine (for as to Belfort even Oken would leave that to the French) and have one Emperor and one kingdom. Oken is, however, far less of a particularist, than many at the present day seem to be who range themselves right and left, and would for himself have been best pleased to see the empire established upon its own footing, so that he would have lived upon no bad terms with our present

chancellor. Indeed, Oken was politically what is now called or nicknamed "Grossdeutsch," that is to say, his kaiser is that of Austria, and was so even in 1848. Despite this, however, had he lived over 1866 and 1870, he would have been one of the trustiest subjects of the kingdom; for above all he was to the very core a German, and not as happens too often nowadays, first of all a party-man and then a patriot.¹

¹ It would carry me too far beyond the limits assigned to this book if I was to insert all that is to be found in Oken's printed writings. I must therefore content myself with giving only a few statements that are characteristic of his political views, and for the remainder must recommend to my readers the perusal of Oken's little treatise as being well adapted to give a true picture of the German patriot. At p. 67 he says, "It is languages, not political decrees, that separate nations; their abodes are held apart by mountain chains, but not by rivers." Again, at p. 68, "Any number of human beings that speak the same language form one people and must be held together by one and the same law: and so it is obvious that it is *the monarchical form of government alone that can meet the demands of such an unity*. Any other form than this is a contradiction and cannot subsist," etc. At p. 132, "We shall never get the character of being a nation *per se* until we are *one* undivided people, and this we shall only be when we have a single master. Now this single master of German *power* (not merely of laws, education, institutions, religion, etc.), is none other than the Emperor or kaiser."

"Our Kaiser must be a military kaiser, and have alone the right of maintaining and summoning together the collective power of the army either for purposes of defence or of war. There should be no such thing as prince's soldiers, but only emperor's," etc.; and at p. 135, "The kaiser alone is to send forth and receive ambassadors, for he alone has to deal with foreign countries."

What is further said respecting the imperial privileges, such as taxes, charters, postal administration, customs, school-control, police regulations, education, universities, academies, etc., contains much, too, that is worthy of being taken into hearty consideration.

[The whole book, curiously enough, as if in anticipation of 1870, concludes with a detailed project for erecting a colossal denkmal or monument commemorative of Germany's liberation, with all her frontier lines restored, as a one and undivided country.—TR.]

In November, 1816, the University of Giessen bestowed upon him *honoris causa* the philosophical degree of doctor (naturæ scrutatori perito sagaci de disciplinis physicis et illustrandis et promovendis quam maxime merito).

With the year 1817 Oken began the publication in Jena of the journal called the *Isis*, which, upon the one hand, has had in more ways than one a beneficial effect upon the whole of Germany such as is now barely appreciated at its full value; and, upon the other, exercised such an important influence over the editor's future prospects, that one may well say its publication formed the turning-point in his whole life. It will not be out of place, therefore, to take a closer view of the general character and scope of this journal from the double point of view just hinted at.

In the first place, its influence upon the general scientific education of Germany was a fact which cannot be overrated. In accordance with his comprehensive mind and its encyclopaediac tendencies, Oken laid himself open to contributions upon every department of Natural History, and so every individual inquirer came to learn through the medium of this, the most extensively circulated journal of its time, what had been done in other departments of knowledge besides his own, so that in this way a part of the spirit of universality striven for by Oken may be truly said to have passed over into the mind of the reader. At the present day we find, as corresponding to the more and more increasing division of labour in all departments of science, that almost every

one of them, however insignificant, has its own special organ or journal of record apart from which many persons never give heed to any other; and so it comes to pass that many inquirers are such exclusive specialists, that they may be fairly said to be capable of playing only "one tune." As opposed to this extreme tendency to subdivision, one might well wish for the influence of the *Isis* back again, if any counteracting help could be got in that way. It was not, however, to the natural history sciences only that the pages of the *Isis* were to be devoted; for, as Oken said of the same in his preface of 1817, "it is an encyclopaedic sheet," "destined to remedy a want that exists throughout Germany, that of becoming acquainted in good time with the many-sided diffusion of all discoveries and the varied criticisms that may be passed upon intellectual products whether of science, art, industry or handicraft; nothing, in a word, that has any abiding and progressive value is to be excluded from our consideration."

Oken, having thus mapped out the several topics to be dealt with in such a comprehensive programme, proceeds to parcel out his design in pretty much the following manner :—

The chief object in the journal shall always be the Natural Sciences (such as Physics, Chemistry, Natural History, Comparative Anatomy, Physiology, Medicine; finally, Technology and Economics), and he then proceeds to justify and build up his plan in the following manner: "Since natural sciences and travels offer to the reader that which is most entertaining and instructive, as it is

through them that the human being first obtains his education, so to speak, learning through their means not only his own place in nature, but that of other things about him, by which knowledge he is brought to form a just estimate of his own dignity and that of others ; as by a knowledge of nature he attains to a recognition of God and the relation that subsists between the two, in short, to religion ; we, to whom these several branches of science have been always the most familiar favourites, shall be very careful to collect all that is important concerning them, group them according to certain points of view, deduce and arrange conclusions from them so as to give the reader by degrees some insight into the great mechanism of nature." Art also, with her helpmates, mythology and archæology, will find a place allotted her in the *Isis*, for to every educated person she is a precious friend, gladdening life, elevating the soul, solving the numerous enigmas of philosophy in a manner almost tangible by the senses, and so forming a holy link between life and knowledge, conscience and belief, the universe and God ; in a word, she is a personified religion. A third important group in the programme is made up by history (especially that of our own country), travels and geography. As to history, one must listen to her decrees and obey them, for she is the very regent or governor of the world. "See how like an awful giant she strides over river and rock, over *loco sigilli* and country barriers, laughing grimly at whatever institutions mind and feeling would clutch at, and in clutching let topple over. It requires the audacity of a fool to ignore history. For

history is humanity, and one man is but as naught. And so it comes to pass that she is the mirror of this journal, which has nature for its foundation, art for its wall-pillars, and the heavens beyond free and open to us all."

"Some subjects," proceeds Oken, "can only be sparingly admitted, such as rhetoric, poetry, philology, politics, and metaphysics or mental philosophy. Still, on such topics, whatever is classic in its kind shall be inserted." But, on the other hand, no articles upon theology and jurisprudence were to find any place; a declaration this which, for the reasons then given, raised at a later period grounds of complaint against the editor, especially as regards the first of these two branches of knowledge. "Besides this," said Oken, "nothing will be said about elegant entertainments, conflagrations, theatrical pieces, inundations, fractures of the leg, thefts and such like remarkable occurrences!" "The *Isis* shall be devoted to the freest commerce," says Oken, on the very first page of his preface, "and in her port every one may be free to land and unload, who has a mind so to do and has got anything with him." Now, seeing that it was free to every one to contribute his quota of work to the pages of this journal, there could be no question raised as to one party or another. With many editors of papers it is a laughable conceit to try and map out the course that things should take. But for the programme of the present journal three rubrics suffice: viz., essays, reviews and advertisements. Whoever has written anything, may also become a reviewer. Every literary offence

must be atoned for in a literary way ; and whoever appeals to public authority to defend the utterances of his own thoughts, must be a miserable wretch, who has no right to invade the community of letters.

From all that has just been said, it is clear that the *Isis* was not intended to be a political paper, and even Oken himself has spoken most decidedly to this effect when he says, "No paper within the Grand Duchy of Weimar has had any reason for trying to subvert a solemn law, that of the liberty of the press, and least of all the *Isis*, which is really no political journal, though it is just possible that something *quasi*-political may have occasionally strayed in here and there, though strictly speaking, against the wish of the editor." (*Isis*, 1817.) Despite, however, all this, the *Isis* gradually assumed a political character, and that, too, of considerable importance, and it was this change which involved our Oken personally in a series of conflicts which constrained him to give up the duties of a professor, and ultimately drove him from the fatherland.

The motives that led to this change in the original programme were of a varied kind. We have to bear in mind that the idea of German unity and power which at the present day, thanks to our glorious Kaiser, his great statesman, and his victorious generals, has become an accomplished fact, was at that time a tabooed idea, which those who entertained were liable to be hunted out as dangerous demagogues. Oken, however, was, as we have already seen, an ardent follower of this idea which, with his open-hearted nature, averse to all deceit

and repugnant to every despotism, he could not contrive to keep buried within himself.

Moreover, as at that time in Weimar there prevailed, by virtue of a State law, a larger amount of freedom of the press than in most other petty principalities in Germany, it so happened that, as a consequence of the above-mentioned invitation by Oken "that every one could land in this port," expostulations and complaints, which it was wished to make public were sent in from all parts of Germany and even from Austria, and these Oken, so soon as they appeared of general interest, took into his journal, though it must be confessed in doing this he did not always make the most judicious selection. Lastly, unexpected hindrances, which, before the appearance of the *Isis*, cropped up to oppose its publication after a manner unjustifiable and at the present day scarcely to be understood, roused Oken's righteous indignation, so that he stepped, so to speak, fully harnessed upon the arena of public life.

The above-mentioned hindrances were as follows. It so happened that in Jena there was a certain privy councillor and professor in ordinary of rhetoric, Joh. Abr. Eichstädt, who edited the *Allgemeine Literatur Zeitung*, for which he had already in 1803 obtained an exclusive privilege (though, by the way no one, except himself, knew anything about this), and the purport of which ran thus, that in Jena as well as in the surrounding territory belonging to Weimar no one by the publication of similar literary or critical papers was to infringe or disturb the rights of the said Eichstädt. Now, no sooner

had the latter (July, 1816) got wind of Oken's intentions as to the *Isis*, than no time was lost by him in invoking the assistance of the government, which, despite its assurances of freedom of the press, issued a *mandatum serenissimi speciale* to the whole Academy of Jena, reminding them that due notice had been given them of a critical and literary journal to be there printed and published, but that no one was to embark, save at the risk of damages, upon any speculation which might interfere with the maintenance of the special and exclusive privilege granted to its editor.¹

¹ "About the middle of July, 1816, says Oken" (in certain private papers which have been placed at my disposal), "I issued the printed announcement of the *Isis*, having concluded my business contract with the publisher and printer, the former having made an expensive journey to Jena, bought and arranged his supply of paper, whilst I had given orders for foreign journals and appointed assistants, the printer doing the same as regards the setters-up of type. Several hundred thalers were consequently invested before the printing of the announcement began. Of the time spent in tracing out a plan which I had carried about in my head for several years, of the preparations which had to be made for the purpose, of work which I had to lay aside in order better to carry out my project, which was in my eyes of far higher value than any sum of money, seeing that we can very well adapt ourselves throughout life to pecuniary circumstances—of all this it is not my wish to say more, as in my opinion there is no such thing as intellectual property, which may be either adjudicated to a citizen, or of which he may be dispossessed. Somehow, however, Abraham Eichstädt got wind of my announcement, and this threw him into a state of anxiety and fidget. He first of all tried to snatch a proof-sheet from a printer's lad, and, this not succeeding, he ran bodily one Sunday morning into my printing-office in the hope of achieving his object, though here again without success. Still, his party was already formed; so, putting himself into the stage coach, he went to Weimar to visit his Excellency the Minister, *Von Voigt*, who had held him in favour for twenty years past; and next day was issued a notice to the collective Academy of Jena, and addressed to the Grand Duke Carl August, reminding him of the literary privilege that had been granted to Eichstädt in behalf of his *Allgem. Lit. Zeitung*, on the 7th of October, 1803." [Oken was then and there apprized from head-quarter

We have only at the present day, as authors and publishers, to imagine ourselves in Oken's position, and

that, notwithstanding the freedom of the press had been granted to the Duchy of Saxe-Weimar by a law promulgated on the 5th of May, 1816, this law could not be suffered to have any retrospective action in reference to the exclusive privilege already granted to Eichstädt; that in so far as the *Iris* contained merely special *communications* and *advertisements*, no objection could be raised to its publication as interfering in any way with Eichstädt's rights, but in the case of *reviews* being admitted into its pages, matters then stood upon a different footing, and a fine, as already stated, of fifty thalers would be for certain inflicted upon the editor. To these arbitrary proceedings on the part of the government Oken issued the following protest:—TR.]

“The government has, I learn, at the pressing instigation of the privy councillor and Professor Eichstädt, taken into consideration the latter's privilege as regards the *Allgemeine Literatur Zeitung*, and finds no reason to object to the publication of the *Iris* in so far as it contains only essays and advertisements, but threatens me with a fine of fifty reichsthalern in case I admit within its pages a single review. Now, except by breaking my word of honour as pledged to my customers,—without reviews, be it said, the *Iris* cannot appear. In announcing the journal I was not aware of Eichstädt's concealed privilege existing, and so, partly that the *Iris* may not now fail in its object, and because I am not desirous to peril its rights, which are not of a special or private character but belong to the world at large, I must here entreat the government to allow me to protest for such reasons against the above-mentioned threat, and trust that, having itself weighed all the *pros* and *cons* of the matter in an impartial spirit, it may suspend the punishment that has been just declared. I do not wish to say anything at present about the validity of a literary privilege existing where by a law of the State freedom of the press has been proclaimed, and still less of the legal potency of a literary privilege which is to be inherited and may be even disposed of to aliens, as in such a case a literary clique may spring up and multiply and arrogate to itself the authority of confiscating to eternity not only literature but the mind itself, and so crushing at one blow and at its own caprice every intellectual product.

“Even in England, the land of privileges, the highest of these that is granted to any one lasts only from ten to twelve years, and these privileges or patents are bestowed only for certain special objects, such as inventions, very often of a trivial character; but never to institutions which belong to the whole State, nay, more, to the whole of humanity, for it is such as these which constitute the true judge's office in the domain of literature.

we shall fully understand the astonishment and indignation which was roused in him by this decree. Without,

" And now comes the question. Suppose that in the last partition of territory half Germany had fallen to the lot of your serene Highness, would not such a privilege, having been once granted and then found impossible to annul, have for its result in case of its extension to the newly acquired territory the existence of only a single critical establishment in the whole of half Germany? What is this, I may ask, but giving up the literature of a people into the hands of a single individual? or, supposing the privilege had not been imposed upon the newly acquired territory, still, as this might unquestionably be done, would not the result be that the *Isis*, e.g. would have to be printed beyond the frontier, and the privilege in this way be evaded? It is accordingly not the actual stoppage of the complete publication of the *Isis* which is the determining cause of my entering the lists against this prohibition, but the duty I hold by of defending my general rights against any and every attack. I would gladly enough abstain from calling attention to the question whether a literary privilege can be bestowed upon any one in direct opposition to other members of the university, seeing that that institution must have and has enjoyed by the very nature of its calling, even in times of general suppression, perfect freedom of the press; or again, how with us who belong to the body corporate of an university over which several governments exercise their jurisdiction, one government in particular should have the right of granting privileges that work to our disadvantage, and the restriction of our mental utterances. I leave it, however, to the members of parliament, and especially to our illustrious academical senate, to settle all such questions, and so guard the State from such fearful results as those already hinted at.

" Meanwhile, as this privilege has already and actually been called in question by the senate, and a law-suit has been opened up with privy chancellor Eichstädt, we have a proof that the validity of such a privilege has not been acknowledged by adepts in the law, and that consequently no interdict can be based upon it, as it is one which ruins the whole progress of literature. But all this, I say, must be left by myself to those who have been gathered together into one body by the prince, that they may defend what is right, ward off what is unjust, and suffer not that regulations should continue which not only render the State an object of ridicule, but may lead in the end to its utter ruin.

" I will, however, now proceed to show that even with Eichstädt's existing privilege my *Isis* has no concern whatever, for 1st, it is not a daily paper; 2nd, not a critical one; 3rd, not a journal of general literature;

however, interfering in the matter, he left free scope to the announcement which was issued at the end of July, 1816. Upon this followed a decree from the Grand Ducal government office, whereby Oken was prohibited from issuing his projected *Isis*, in so far as it was to contain reviews and so be a critical journal, with the penalty of fifty thalers in case any judgments upon literary works were, after this notice, inserted in its pages.

Oken, after having issued a protest against this decree (September 2, 1816), waited for weeks, nay, months, without getting any answer; and having been accidentally informed that the case would be decided against Eichstädt, "resolved," as he writes, "to risk fifty thalers upon the story afloat," and accordingly published first one review, then another, and so on, until, finding that he was not punished, he began to look upon the whole affair as pretty well done with, and took no more notice of Eichstädt. Such, however, was not the case, and Oken must have himself felt it to be so. "An ill

4th, not even a literary journal, but 5th, an ordinary journal devoted to some special departments of knowledge; and consequently that 6th, the *Isis* has nothing to do with Eichstädt's speculation, does not interfere with it, much less disturb it, however he may cherish the ridiculous presumption that it may do so; so that I am accordingly, 7th, despite the privilege, justified in inserting in my journal special reviews gathered from contributors to special departments."

[These statements were in what follows more rigidly confirmed, and Oken concludes his protest with the following words]: "I therefore beg the serene government to withdraw the threatened punishment of fifty thalers and leave me undisturbed as to my projected plans in the publication of the *Isis* whole and intact.

"*Jena, Sept., 1816.*"

"OKEN.

fate," as he says, "had beset the *Isis*, and the tragedy was ushered in," and it now needed only some petty blunders upon either side, to tighten the knot and bring on the catastrophe. Under the present circumstances errors could not well be avoided ; for, on the one hand, the *Isis* had become obnoxious and suspicious, and on the other, Oken was exasperated and but too often forgot the necessary dictates of prudence.

In the first number he reprints, under the title of an "excerpt from the Statutes of the Constitution" (Weimar, May, 1816), a passage to show how distinctly the freedom of the press had been recognized. In No. 2 we meet with the following passage, to which a picture of a pair of scales is appended, "The progress of the *Isis* shall teach us whether we actually have freedom of the press, or whether it is to be made a farce of by means of literary privileges and their arbitrary explanation and interpretation." In No. 6, an offer of a prize is made to all the legal faculties in the world, whoever shall answer the question, whether or no, in a land with freedom of the press literary privileges ought to exist ? In No. 9 we have a critique of the Weimar Constitution ; but this, though very moderately worded, caused a great sensation, and, as Oken himself tells us, a great running to and fro of the police, and despatching of official reports to the ministry. About the same time another piece of news bearing the stamp of some certainty was being bandied about. The University of Freiburg was to be suppressed apropos of its being affiliated to that of Heidelberg. Against this intention, which was ascribed

to the then government of Baden, Oken (in the *Isis*, 1817, 4th Heft. p. 63) came forward armed with his accustomed panoply of incisive and unsparing criticism, the more potent as being built upon the purest truth of conviction. The University of Rostock also came in for no very delicate handling, on account of the proposed calling of Oken to fill the chair with all its accompanying opposition. In these and other articles we encounter for the first time the use of very graphic illustrations in the way of woodcuts (depicting asses heads, etc.) which, as may be well imagined, contributed not a little to give a piquancy to the text.

By a decree issued June 24, 1817, it is shown that the Weimar government, although it had never answered and still remained silent as regards Oken's protest against their decision in the case of Eichstädt's *Literaturzeitung*, had yet kept diligent watch over the course pursued by 'the *Isis*, having been led to do this partly by the obnoxious criticisms of Oken's above alluded to, and partly through the influence of the Prussian government, which felt itself offended by some remark of the latter. In this decree, which bears reference to a grand ducal mandate, Oken is warned and threatened, that—owing to difficulties having been actually incurred with foreign governments—suppression of his journal must inevitably follow any further non-observance of the above commands.

And now came to pass the students' festival (*Bürschen-fest*) upon the Wartburg—the so-called Wartburg fest—on 18th and 19th October, 1817, and with this our

tragedy draws to a close. In the summer of 1817, the Burschenschaft or Students' Association at Jena had invited similar fraternities from other German (especially the evangelical) universities to meet, October 18th, at the Wartburg, in order that they might celebrate together the memory of the battle of Leipzig, the liberation from a foreign yoke, and at the same time, the third jubilee of emancipation, by means of Luther, from a spiritual despotism.¹ The results of this invitation were

¹ Similar festivals appear to have been held in other places, as e.g. one that was got up by the students of Freiburg on the Wartenberg in the Black Forest, near Donaueschingen, 18th Siegesmonds, 1818.

It is with downright pleasure that we see the German students of Freiburg, full of fiery zeal and enthusiasm, joining hands to celebrate this day as one never to be forgotten in the annals of the fatherland.

On the 17th they all met in the afternoon at Donaueschingen. Four messengers were sent from thence to the Wartenberg, two leagues off, in order to inspect the place and make preparations for the festival. In the evening they all mustered in torch-light procession in front of Prince Fürstenberg's castle, and gave him a hearty cheer, after several songs and choruses had been sung.

On the morning of the 18th, at eight o'clock, the first meeting was held in a wood belonging to the prince's pleasure-grounds, when F. Müller, a theological student from Freiburg, delivered a sensible and powerful discourse as to the object for which they had met together. After this all betook themselves to the church, and service being ended, three of them were sent to tender thanks to the prince for having so graciously granted them permission to hold the festival upon his domain. About eleven o'clock the second meeting was held, in which several matters that concerned more closely the object they had in view, were discussed. A common mid-day meal served to wind up the morning's festivities.

In the evening at four o'clock the students set out for the Wartenberg. They marched very slowly with songs and trumpets blazing through the streets of Donaueschingen, and then the procession passed through the courtyard of the castle to the spot where they could greet the prince with cheers and shouts of joy. They then proceeded more quickly forwards, and in a short time reached the foot of the Wartenberg, and, the summit being soon gained, they entered the citadel with bands of music playing.

brilliant enough: above five hundred young men met together at the festival, and all Jena greeted the gathering as a goodly association of German youths, one, such as, to use the words of Oken, "had never been seen since the palmy days of Greece." The Grand Duke himself lent all his support to the festival, and opened up the Wartburg for its reception. On the 18th of October, they all assembled upon the hill at the castle; many animated speeches were delivered, and the whole party broke up in a spirit of patriotic elevation and in the most orderly manner.

Yet, with all this, warnings and denunciations had already been sent in to the government from Hanover, and especially from the well-known director of police and minister, von Kämpitz in Berlin, and also from other places. Now, though it was well known in Weimar that there had never been a more orderly and harmless festival than that of the Wartburg, still these imputations or accusations from other quarters had their effect, and by degrees everything and everybody (with the exception

A stack of wood was then piled up and lit with blazing torches. Then, standing all round it they sang a war-song, by P. Kaiser, a law student from the principality of Lichtenstein, with an accompanying melody, the composition of one J. Brugger, a theological student from Freiburg. Hereupon Kaiser came forward and addressed them in words full of feeling and power. After this several hearty cheers were given, and Körner's hymn was sung with becoming dignity in chorus. And now a solemn silence reigned. Whereupon J. Wieland, a medical student, read a letter (sent from the north) by Dr. C. Baader. A poem, by F. Müller, a theological student, wound up the festivities. All adjourned full of spirits to the dining-hall, and spent some hours there in singing and clanking their goblets together. About midnight they left the Wartenberg and returned to Donaueschingen, and on the following morning, having taken their leave of each other, every one went his own road home.

of the Wartburgers) fell into a state of scare, or, as Oken cleverly puts it, "began to believe or to think, or to suppose or to fancy, or at least to persuade himself one way or another," that all was not as it should be as regards the festival, that a secret covenant had been formed, thrones were to be upset, and so on. There were two circumstances that gave a certain pabulum to these reports—one that in imitation of Luther, a number of obnoxious books such as the "Gendarmerie Codex" of Kämptz along with some detested emblems (*e.g.* a corporal's staff, a pig-tail) had been burnt upon the evening of the 18th on the Wartburg with great ceremony, and secondly, that on the 19th as a token of the thorough reconciliation and unanimity of all German students with each other (for so the Wartburg festival came to be called the *Studenten-friede*) a great number had partaken of supper together. In this way the festival became puffed up into a regular conspiracy, and public rumour with her thousand tongues magnified everything into the monstrous, while the *auto-da-fé* and evening meal were the mysterious symbols of a brotherhood pledged to murder kings and bring about revolutions.

About fourteen days after the festival a description of it appeared in the *Isis*—unfortunately illustrated with certain comic vignettes as memorials of the objects that had been burnt upon the pile—and as generally happens "at a time," such are Oken's words, "when waves beat high, every one is busy to catch up and expose to view what comes to land," so now a rush was made into the

printing office for the exact No. 195 of the *Isis*, and a confiscation having been declared of that number on the following day, it rose so much in price that a ducat or more was paid for a copy, and foreign orders went up to almost any amount. The excitement increased ; friends counselled Oken as to the storm that was brewing and seemed destined to break over his head, and advised him to escape ; but no, he remained quietly in Jena.¹

¹ Meanwhile there had appeared in the *Isis* a cursory remark, hoping that the freedom of the press would not be infringed upon by literary privileges, and that the constitution would do its duty as regards this matter. At the same time the criticism of the Weimar government was printed, and this caused in the duchy a great stir or running to and fro ; the president of police having received instructions to report to the ministry about the matter ; while at the same time the nobility made itself especially audible on the occasion, why, I know not, and probably they were not much wiser themselves. Then came a lull, and not a word was said to me by anybody. It is clear, therefore, that no offence against either the supreme authority or the State could be involved in this judgment, or otherwise a vigilant rule, whose duty it is not merely to punish offences, but also to warn beforehand those who may commit them, could not have remained silent. Throughout the whole land there arose a general feeling of satisfaction, and I myself received the most hearty testimonials of respect. Indeed, this criticism evoked the attention of the whole of Germany, and especially contributed to bringing the liberality of Weimar government into the consideration in which it then stood. The most distinguished savants in Germany gave the critique their approval, and expressed a hope that it would operate powerfully upon the designs of other governments.

"With the year 1817 appeared the *Oppositions-blatt*, to all appearance with the sanction of head-quarters and with the object of working against the *Isis*. This, however, did not tell as a matter of course, and the paper soon caused complaints to be made against it by foreign governments.

"The first step that was taken in regard to defining more closely the freedom of the press, was the police announcement of the 3rd of May, 1817 (*Isis*, part viii.), stating that some advance will be made in such matters when regents or governments have relieved the matter of certain deep-rooted grievances. In a word, that in matters which concern individual privileges and governments, but not other authoritics, something only should

On the 6th of December, 1817, after having undergone, along with Professor Fries, Kieser and others who be done when a real complaint has been made, and then only when the same has been properly substantiated and inquired into.

"In other respects this announcement had but little effect. The only paper that had appeared against the government was that upon the University of Freiburg, but this had given occasion to no difficulties in the mind of anybody, and no one, in my opinion, could have found cause for them, while at the same time I was in the receipt of as many approving and gratifying judgments upon this as on the first critique, so that I may truly say these two papers have been the means of directing the attention of a still larger public in Germany to the pages of the *Isis*. Learned papers, especially upon natural history, could have no power, as is well known, of doing this, seeing that the number of those who value the sciences is really but small, a fact this of which I am daily more and more convinced.

"The first warning, which the *Isis* received, came some months later. The statement that had been there made (1817, p. 1097) as to "the pretensions put forth by Prussia of guiding the mind of the whole of Germany," was in all probability interpreted as an insult to the Prussian government. I know not whether with German lawyers the warnings that emanate from upper heads are to be visited as sins upon their inferiors. But anyhow, inasmuch as this warning was not admissible legally, it made not the slightest impression upon me, and I proceeded to use my pen after its receipt just as I had done before, namely, by writing strictly according to my own convictions.

"Matters indeed went on very quietly until after the great festival of the Wartburg, and over this, as is well known, some cowardly fools have literally raised a cry of alarm as being the imagined source of the darkest plots and doings, while it was in point of fact nothing more than a noble gathering of German youths such as has never been seen since the palmy days of Greece. However, no matter, we professors were howled at as being the wire-pullers, and upon me especially, as was agreeable enough to many persons, fell this storm of blind fury and indignation.

"The great call-bird who led the van in all these cries and shrieks was Kämpitz, in Berlin; and he brought matters finally to such a pitch that all the ministers in Europe fell into a state of terror. He even ventured to write in such a tone to our Grand Duke, as to justify the neglect into which he has now fallen.

"Although every one knew in Weimar that never had such an innocent festival been held as that of the Wartburg, still these charges and imputations, as coming at the instigation of Dr. Fire-the-faggot, had their effect. The outcries and threats became so universal and severe, and, as always

were present, an examination as to all that had occurred

happens, so magnified in their intensity by troops of cowards and vacillators as that at last everybody, with the exception of the Wartburgers, fell into a state of terror and began to believe or to think, or to suppose or to fancy, or at least to persuade himself one way or another that all was not as it should be as regards that Wartburg festival, that laws had been then and there burnt and that a secret covenant had been formed, thrones were to be upset, and so on. It were vain, however, to repeat all the "horrors" that were invented and bandied about. Matters, however, went so far that we professors must confront a judicial examination as to all that had taken place upon the Wartburg, and every step that we had taken during our residence at Eisenach. One may truly say this was a literal reign of terror for Weimar, at all events for the town ; with us in the country no trace of it was left beyond the results, which lasted the longer, as the fright had been great and transitory. About this time I was once in Weimar, and cannot help acknowledging that a certain shiver crept over me when I witnessed the general anxiety that prevailed, how some would well-nigh run their heads against the wall, others let it hang down while no one dared to converse openly, and all glared at each other like so many stricken deer ! They already saw in that prophetic spirit, which is born of the imagination through fear, troops of soldiers advancing by hundreds of thousands, and bivouacking over the country just as the Romans may have done when they had to make their last will and testament before Arioistus the Teuton. Hereupon I shook the dust off my feet and got back to Jena, that I might again laugh over all I had seen or heard.

"About this time my description of the hearty festival of the Wartburg appeared in No. 195 of the *Isis*. As happens always, so on this occasion, every one was busy in collecting and bringing forward what had turned up in such a stormy time. The printers could not refrain from smuggling the arabesques of the *auto-da-fé* into the pot-houses ; and at length came the students, pouring in by hundreds into the printing-office and carrying off each a sheet of the number along with him. And hereupon ensued a mighty spectacle ! Some professors on their way to the chamber of deputies snatched hold of some of the printed sheets and laid them before that body. One may well imagine how, in doing this, one scruple of conscience after another oozed out in a manner which is easily to be understood and excused. It was now wished that I might suppress the paper on account of the pressing exigencies of the occasion. But, as it so happened, while several hundred copies were already in circulation, I should, by so doing, have cast a slur upon its publication ; whereas, in my opinion, they were not only void of offence, but directly adapted for allaying the uproar that had arisen. Meanwhile, in order not to appear too ram-headed or obstinate, I offered

since the festival ; he was summoned to Weimar, and

to leave out the figures of a pigtail staff and bodice, provided the senate would reprint the number at its own expense, which would amount to about a couple of thalers. This proposal, however, was not approved of, and so a step was made counter to the liberty of the press, seeing that no one knew any better then how to accommodate himself to the new liberty of the press than at a later period in Weimar. The old ideas of suppressing a journal instead of bringing it before the courts of justice and then and there punishing its offence as in any other case, stuck still so firmly in the heads of those persons who for years past had never seen any other method of procedure, that even those to whom the freedom of the press might have proved the noblest treasure, could not understand what a difference there is between the legal proceedings of modern times and the way in which such matters were adjudicated of old. The judge, however, who was for interdicting No. 195, might have known better, as to what did not properly belong to his office.

"So much for the events of one day ; while on the next I got a hint from Weimar that I must set other matters aside, for the next thing would be an attack upon my personal liberty. This I could not comprehend, and so let everything go on just as it did. But lo ! one afternoon who should come to the door but Gille, the police constable from Weimar. He had scarcely got out of his vehicle, before I was apprized of his presence, so ready is every one to help another in matters that concern the people. I was not, however, disturbed by this visit, and calmly awaited what would take place. He finally returned to my rooms with the actuary of the university and a copy of the document which authorized the seizure of No. 195 and the suppression of the *Isis*. I let him do what he pleased. He carried the treasure back to Weimar, and at the same moment the students were paying for it one thaler over and above the price, which was twenty-four kreuzers, and on some days even a ducat was offered for the same : for such are the efforts made by people in times of political pressure. It was not long before offers to any amount were made from strangers, and if any one had had by him a stock of copies for disposal at that time, he would in a few weeks have become a rich man.

"This transaction, which appeared to be an attack upon academical rights, was a mighty source of vexation to the professors. They hurried to my house and kept urging me to lodge regular information with the senate that might induce them to stand up in defence of their rights. I alone, as may well be understood, was deaf and insensible to all this, having learnt to let everything go as it did with the *Isis*, from feeling assured that to deal with the freedom of the press in any country is not a business that belongs to the private individual, but to corporations and provincial members.

here had to pass through a series of similar inquiries

"The above scene was, however, only the introduction to the crowning act of the drama which already lay in readiness behind the scenes. And so the next day I saw all faces looking awry at me, and overheard sundry snatches of conversation which threw me into some bewilderment. 'You must not act alone,' said one, 'but must call in an advocate.' 'You must be cautious upon examination,' said another, 'and be neither caught tripping or answering in an offensive manner.' Then came a third with the hint that I must get provided with money, clothes, and clean linen, to go to Weimar. 'Remember, too, that you have a wife and children,' put in a fourth, while I meanwhile knew hardly what to think of all this, for I did not understand a word of such idle talk. That something fearful was being hatched it was easy enough to observe, but not so easy to guess what it was. In order to get some light in the matter I went to Weimar, and inquired of every acquaintance I met in the streets, 'What's going on here, and what do they want to do with me?' One of these persons knew nothing except that all had gone on in a state of confusion on account of the Wartburg festival, and that both Prussians and Austrians were pressing so hard upon Weimar that he did not know how she would come out of it. Another would not give tongue, and held his face downwards; a third endeavoured to get out of my way; while a fourth said he knew nothing except that Kämptz had written an impetuous letter; whereupon some one else intimated that Kämptz had come in person and was doing his utmost to promote the Wartburg uproar; a sixth, that Hardenberg and Zichy were on the road to investigate the matter; a seventh, that crimes had been actually committed upon the Wartburg, in burning the "Gendarmerie Codex"; an eighth, that it was a proof of a revolutionary conspiracy, the mere fact of the students having supped together; number nine, that one is vexed at your being without blame as regards the Wartburg story, but some sacrifice the authorities must have, and so they intend attacking you from another quarter, but how, I know not; number ten, 'Take care, much stands in the *Isis* that may be made a criminal offence of, and now will be the opportunity for ferreting such out;' number eleven observed that we were hemmed in on all sides, that to foreign governments freedom of the press was a literal eyesore; something must be done, said number twelve, in order to show them that everything cannot be suffered to go on anyhow. Number thirteen, 'You are the very one who pays least court here to anybody, and has made no acquaintances; one might do just as well, or better, in calling to account some one else;' number fourteen, 'It will go hard with you, seeing that so-and-so is your enemy,' while last of all said somebody, 'Matters will be driven pretty hotly; they will be ready enough to make an example of you, seeing that you have much reputation, and the

before a Government board.¹ On the 24th of January, 1818, judgment was passed by this improvised court to

whole business will make a noise.' And so went on this gossip from one to the other, at the end of all which I knew less than I did before, for what did it all amount to save a mesh of private opinions, views, etc., modelled to suit the fancies of each person and the amount of interest he took in me. I accordingly took my place in the stage-coach, more dull and perplexed than I had previously been, and so got out of the town. Left to myself, I began to reflect what harm could, properly speaking, be done to me. No one had complained of the *Isis*: the critique upon the Weimar government was nearly a year and a half old and well-nigh done with; the State would not be pledged to avenge a solitary offence, but would look out till several had been committed, and then getting heartily sick and tired of its own delay, proceed forthwith to interfere. As I am no lawyer, I cannot exactly apprehend this view of the case. And so the night drew on. Friends and acquaintances, relations and unknown persons, stood already by me to hear what I might bring forward. From all that passed between us I was driven to discern a general fear that something very terrible would happen to me, and that the people knew more about the whole matter than I could have learnt. Only they appeared not to know the how and wherefore of the whole job. All, however, were very anxiously concerned about me. But as regards myself I slept soundly enough. The following day down fell the bomb-shell, and in exploding let in a fearful light upon the darkness." (Allusion is here made to the summons before the committee of investigation upon the 6th of November, 1817), and which stands as follows. (See next note.)

¹ "I made no communication of this summons to anybody, not even to a lawyer, having firmly resolved to let the jurists deal with me just as they pleased. Privy Councillor Fries was summoned along with me, but protested against the competence of the commission, and so withdrew, betaking himself straight to the Upper Court of Appeal. I could also have done the same, but wished once for all to see how far the jurists could push the matter, how far their rights extended in a general sense, and besides, I was convinced that nothing stands in the *Isis* which could, with the exercise of the greatest ingenuity, be turned into a crime, for the very simple reason that I had never intended to commit one. No complaint was made in reference to the Rostock arabesques, and if even any punishment had been recognized as admissible on that score, I was collected enough to plead having laid them down as a kind of stake, and found them to be fair game. Apart, however, from this joke I stuck to my point, that there was actually nothing in the *Isis*, not even a single sentence, that was blamable or

the effect that Oken, having failed in his duty towards the dignity of the sovereign prince and that of the

punishable. I might even have stopped this hasty step on the part of the Commission by showing that I had sent a copy of my paper to the university. But, as I said before, I felt averse to taking any step, which might have brought me any unusual assistance. I regarded myself as an innocent man, and that to me was protection enough while embarking upon the storm which broke over me from out a regular hurricane of conflicting feelings. Such a struggle as mine then was is indeed no pleasant pastime, and I may truly say that it was a hundred times more fearful and injurious than any punishment that could have been inflicted upon me in the upshot of the case. I am not, however, so sensitive as to imagine any human being to be destined to pursue his own business in a peaceful manner and to exercise upon it his physical and mental powers according to his own liking, only so long as he does not invade the property of others. Fear, indiscretion, and arrogance are passions of the rational animal which every day make attacks upon his natural sense of freedom. If one will not bear these patiently, why then one's whole life must be spent in ceaseless vigilance and skirmishing. Better, therefore, is it from time to time to gather together all one's activities so as to throw overboard for some time to come the sneaking impudences of others. It is true that we lose valuable time in doing all this, but it cannot be helped. It is a strange thing, too, to wish that we may always pass through this life in a circumspect and easy-going manner. And so it came to pass that these considerations determined me to let the jurists, as I have already said, do with me just as they pleased.

"I went thus, on the 6th of December, 1817, to Weimar, and was interrogated, with only a brief interruption, from nine in the morning till five p.m.; in the course of which I could not help pitying the witnesses, who must have suffered a weariness amounting almost to death, and also the sad lot of the commissioner, whose conduct has by no means merited the blame which was afterwards cast upon him in the public journals. He conducted himself in every respect as was prescribed for him by his official position, without doing anything whatever of which I could find reason to complain. Whether he was to blame in undertaking such a commission, and in inquiring into such matters and asking me such questions as he did, must be left to the lawyers to determine. As regards myself, I answered good-naturedly every question that was put before me, for I was of opinion that, in a matter assumed to be of such importance, which had been so suddenly and fearfully embarked upon without any moderation having been observed, and which had become the exclusive talk of the town as well as

magistrates, and having slandered certain German princes and foreign officials, should first be imprisoned for six weeks, with costs in addition ; second, he was warned, upon repetition of such offences, of a still severer punishment, and lastly, No. 195 was to be destroyed, and orders were given forbidding it to be reprinted.

Against this sentence, the third clause of which was carried out so effectively that in very few German libraries indeed is this number to be found, Oken raised an appeal. The upper court spoke openly to him of the accusation of civil delinquency that had been brought against him ; but as regards the remaining accusations, considering they had not been brought before a competent tribunal, decided that judgment against him must lapse through default.

Oken was thus free. But his enemies would not rest ; and the great sniffer-out of demagogues, von Kämptz, by a series of very obtrusive letters sent to the kindly dis-
of the court, one should deal with the most sacred earnestness and the most straightforward conviction of the admissibility of such a procedure. It is true I have at present such a different notion of the character of the whole case and the business of the lawyers, that were such to occur over again, I should know how to deal with it after another fashion.

"At the commencement of the inquiry the condemned No. 195 of the *Isis*, all scored, as well as a perfect copy of it, etc., were laid before me. I have, however, naturally enough, in the midst of so much hurry, and in such a frame of mind, seen as good as nothing of the legal proceedings themselves, which had not yet become a matter of daily professional business ; so, in order that the reader may form a better estimate of the severity of the accusations and of the judicial dealings with me, I have here printed designedly the documents which I first got hold of at a later period." (See Report of Judicial Inquiry, *Isis*, 1817, p. 147.) For the Judicial Reports of Oken's dismissal, see Oken's "Dienstentassung," Leipzig, F. A. Brockhaus, or supplement to Augsburg *Allg. Zeitung*, 1819, No. 148-49. *Isis*, 1819, p. 801, etc.

posed Grand Duke, in which the Jena teachers and pupils were called "a heap of rabid professors and students," only served to rouse his mistrust and fear. On the other hand, the many addresses of sympathy which were sent from abroad and printed in the *Isis*, from not being always couched in moderate language, served only to irritate the government ; and so in May, 1819, the University of Jena received from the highest quarters the injunction to set before Oken the alternative of either giving up the publication of the *Isis*, or any other paper of a similar character, or to at once resign his situation as professor. The senate remonstrated courteously but firmly against carrying out this measure by observing, that if Oken had erred, it was still possible for the matter to be settled legally. The reply given was of a very ungracious kind, namely, that Oken must abide by the original sentence. Whereupon, Oken, upon receiving this intelligence, very briefly and fittingly replied that he had no answer to make to such insinuations ; and so on the 7th of June his dismissal was announced.

Of all this mournful affair the most agreeable record out of the many which have been preserved to us is the address sent from the senate to Oken, expressing the deep regrets of the university, as also Oken's reply, both of which are alive with the glow of the most genuine college feeling.¹ Orders were soon given from head-

¹ Oken's reply to this address of hearty regret at his departure is as follows :—

"Honoured Prorector and Men of the Academy,

"It is on hard and bitter occasions like the present that the feelings declare themselves whether they be good or bad. Although always

quarters to the commissary of police for the provisional suppression of the *Isis*, and Oken was accordingly obliged to transfer the printing of his paper to Leipzig ; and so these jarring proposals, of either giving up the *Isis* or the professorship, were rendered illusory, seeing that he was expected to do both.

It is painful to recall to mind that at this period Goethe held the office of minister of state at Weimar, and that he it was who, upon being requested by the Grand Duke to furnish him with a report of the measures proposed by the government against the *Isis*, laid before his Highness the most violent, unconstitutional course of action that could be adopted—one that was utterly incompatible with any guarantees for press-liberty, namely, the direct suppression of the journal. Nevertheless the

convined of the esteem and affection of my much respected colleagues, I cannot but recognize at its full measure the value of the open and official declaration that has been made by the members of this academical senate. If I have any merits in the eyes of the university I have only to ascribe them to the co-operative and friendly spirit which animates our institution ; if I have contributed anything to science, it is but the fruit of the lively zeal by which this academy has hitherto been distinguished and which imparts itself to every new teacher ; if my endeavours have been favourably recognized by the public, the circumstance that has contributed towards this, is the fact that they have emanated from this very spot. If I am obliged now to part company with men, endowed with such intelligence and zeal, and from an institution that is all that it is through the goodwill of its teachers, it still comes especially hard upon me that I must regard the cause of this as a turning-point in my life which will perhaps serve some day hereafter as a sign of how things once were.

" Come what may, however, I shall ever remain attached by feelings of gratitude and respect for men like yourselves, who have been, and are still so much to me, and who prove by their conduct on this occasion that they intend so to remain.

" Yours most thankfully,
" OKEN."

Grand Duke Karl August was, as Düntzer justly observes, from whom I borrow these facts, far more liberal and just than his adviser, for he would not embark upon the matter in the way suggested, and so the simple warning took place (June, 1817).¹

* GOETHE TO THE GRAND DUKE.

It will be seen in Düntzer's ("Studien zu Goethes Werken," 1849, p. 375), what part Goethe took in Oken's prosecution.

In consequence of the articles that had appeared in the *Isis* upon the constitutional government of Weimar, the latter had recourse to the following measures. Many different means were covertly proposed with a view of restraining the "mischief," and the reports were laid for decision before the Grand Duke, who thereupon submitted them to Goethe, asking him for his opinion concerning them. Goethe held at that time the title of State Minister, and had a salary of three thousand thalers, but did not belong, as Düntzer declares, to the actual ministry of State. After his return from Italy all that were called Institutions for Science or Art fell under his supervision, and this "superintendence" he shared jointly with the State Minister, von Voigt. The duke, however, wished frequently, even in matters that did not belong to Goethe's business, to have his opinion about them, and as the *Isis* affair seemed to him of some importance, he could not disregard Goethe's views about it, as he expected to get from him a liberal and impartial judgment.

Thereupon follows Düntzer's account of Goethe's opinion, as given in a transcript before him, undersigned by Goethe. This I give in Goethe's own words, as regards the most important passages, and for the rest follow the general bearings of the context :

" Though I have always considered it my first duty to carry out the most gracious commands of your Royal Highness as promptly and exactly as lies in my power, I must confess to feeling this time when your Highness bids me lay before him my opinions about the *Isis*, certain qualms of hesitation. I will, nevertheless, overcome my scruples and convince you by what follows that I have very good reasons for going to work at this matter with due consideration." Goethe then observes, that regard being had to what has been reported, the most judicious step would have been to have suppressed the journal, through the agency of the police, on its very first announcement, as in this case it is incumbent upon an authority to act without asking any questions, according to the direct commands it receives from some tried and experienced official. This, however, not having been done, and eleven numbers of the paper having been already issued, we are

Whether any or what part Goethe took in the measures adopted at a later period against Oken, especially as

left to the sorry privilege of seeing ‘how insolence, when unchecked, waxes daily, and reveals without stint its character.’ The reports contain a notice of the president of the Board of Administration touching these eleven numbers of the *Isis*, which must appear to future men of business as something atrocious, since, according to the discretionary authority of three commissioners, one must, first, reprimand the editor of the *Isis*, either orally or by writing for his improper behaviour ; secondly, threaten him that in the event of the attacks being renewed upon individuals or certain classes of men his journal will be at once suppressed : while, thirdly, it is proposed to stir up the attorney-general against him, and so procure satisfaction, for those who have been insulted, by an ordinary legal procedure. Goethe’s next step is to give his opinion upon these three proposals, with none of which he can agree. As regards giving Oken notice to keep the peace, this may very well be done by a president to subalterns or inferior officers, but, in the case of Oken, who is after all a man of intelligence, varied information and merit, it would not be becoming to deal with him as though he were a schoolboy. Besides, we must keep in view the possible results of such a move. Suppose, that Oken disregards the summons ; what then? “ Is he to be brought into court by the military, or what other step is to be taken ? ” Or in case of his appearing and speaking as boldly and insolently before the court as he does in print (and in gift of tongue be it remembered he is no wise deficient after several years’ teaching), is he to be locked up as a prisoner, or left to go in a triumphant manner ? But granted that Oken might behave in a discreet manner before the board, still in the very next number of the *Isis* he would only make merry over the occurrence after an unseasonable fashion ; and the same thing would happen if he was reprimanded even with threats as to future consequences.” As to the adoption of the second of the above-named proposals, the threat as to suppressing the *Isis*, Goethe’s advice is against this ; “ for if the journal is to be more moderate and discreet in tone, and more restricted in its character, why then the *Isis* would be no longer *Isis*, nor Oken, Oken. And if regard be paid to the form or contents of such a pamphlet, where is the limitation to come from ? It embraces every conceivable topic after an encyclopædian fashion, and even readmits, what it apparently excludes, in an offensive manner ? The form is wild and insolent, without any heed to existing circumstances, without any taste or refinement in depicting them ; and how, pray, is this form to be moulded after a reasonable manner ? And are there any bounds to be set to such madness, want of decorum, and insolence ? ” etc. etc. Least of all, however, is Goethe able

regards his dismissal from service, is a question I am unable to answer. His name, so far as I am aware,

to reconcile himself to the third of the courses proposed, that of legal procedure, which though at the present day we should hold to be the only one tenable, was obviously one which did not offer him sufficient security for the attainment of the ends he had in view. Upon this point he expresses himself as follows: "Suppose he lets print the accusation brought against him with answers already provided and appeals to the court that no one can be punished for declaring the truth; could he trust himself to making a clean statement as to what he has had put in print? Who should hinder him from laying bare the weak points of the Rostock Faculty, such as they may be? Who is to prevent him from commenting upon the twenty-three points which he has instituted against the charter of the Weimar Constitution and declaring repeatedly that this State document is good for nothing, and so reiterating and confirming what may be found to lie either openly or covertly in the pages of his journal? What, again, is the attorney-general to do, and what must be the kind of court to which such a business is to be subjected? In faculties and courts of justice one sees persons animated by a like revolutionary spirit; and it may be very possible that Oken would get justice from such a sanhedrim and be lauded into the bargain. But even admitting that in these times of rupture and disunion a court could be even imagined that should make judgment according to old and immutable laws: 'is it fitting that a sovereign prince should submit to its arbitration the most important questions upon which he alone, by consulting with his ministry and supported by his deputies, is in the proper position to pass judgment? *By no means, then, is the present business a legal matter, and must not become such.*'" As to the question, What then must be done? Goethe replies: "The legal measure, deferred in the beginning, must be adopted, and the paper at once suppressed. One has nothing to fear as to the results of having taken a bold and manly step; for, come what may, one has at all events the pleasurable feeling of having acted rightly, while nothing in all cases is so painful as the consequences of procrastination and vacillation. With the suppression of the *Isis* its circulation is at once arrested; and better far and braver is it to let one's leg be taken off than die of a lingering mortification." As regards the mode of suppression, Goethe advises the Duke to ignore Oken *in toto*, to stick to the printer, and forbid him printing the sheets upon pain of personal penalties. The letter ends as follows: "For the present nothing remains for me than to beg pardon sincerely of your Highness for having perhaps expressed myself in too energetic a manner. I would, if time admitted, work out the whole subject again, and so put it before you in a more

occurs no further throughout the whole legal business ; and even Oken makes no mention of him. For the first time, and long after Goethe's death, he made an open reproach against him by declaring, in the *Isis*, 1847, p. 560, "that it was Goethe who stirred up the Grand Duke Carl August against me, and so called forth the ill-treatment which became my lot in Jena." If an accusation like this coming late in the day is to be regretted, it is, when looked at from another point of view, to be excused ; for in reality Oken was provoked to break silence in regard to his relations with Goethe by the overzealous worshippers of the latter, who, while they could not endure the slightest spot to be cast upon the character of their idol or demigod, did not shrink from accusing the grey-headed, much-persecuted, and even then ailing Oken of the basest plagiarism from Goethe.¹

befitting and sober form ; but now is really neither the time nor place for regard being had either to style or forbearance. My only wish has been to convince your Highness and all well-thinking persons not so much of an evil that threatens, as of one that has befallen us."

From what has been here recorded, it is evident that Oken was not so much in the wrong in accusing Goethe (*vide* his article in the *Isis*, 1847, *versus* Hegel and Goethe) of having taken an active part in the procedures that were brought to bear against him, nor can we feel very much surprise at the harshness of his expressions.

¹ The attacks made upon Oken, which induced him to break silence, were chiefly the following. In the Augsburg *Allgemeine Zeitung* for 1836 (four years after Goethe's death), appeared a lengthy article by an anonymous writer, entitled "Opinions of the times about Goethe," in which it is stated how he had inserted into his essays on "Comparative Anatomy," sundry questions as to the deduction of the bones of the skull from the vertebral column—questions which had occurred to him in Jena so far back as 1795, but which were not published till some years later in his "Morphology." Upon this follow sundry insinuations about Oken having betrayed Goethe's confidences ; though, oddly enough, the writer acknowledges in the very next

This unworthy treatment of Oken, which obviously enough sprang from purely political motives, must the

page that Oken cannot be accused of having unjustly appropriated to himself word for word the merits of the discovery, and even adds, "We are glad that another distinguished naturalist has, quite independently, though thirty years later, hit upon the same idea." The accusation, however, which was raised against Oken some years later, is of a still more direct kind. In the edition of Hegel's works by Michelet, 1842, we find the following passage. "Oken, to whom Goethe gave a copy of his treatise" (by the way, Goethe never wrote anything in detail deserving that name. Tr.), "has straightway laid bare the thoughts therein contained as his own property in a special programme, and has so carried away the credit of the original discovery."

Now that the above accusations could not possibly be left unanswered is clear enough, and if the replies made by Oken contained some cutting attacks upon his assailants, one can scarcely blame that much-persecuted man.

As regards, in the first place, the remarks contained in the Augsburg *Allgemeine Zeitung* about Goethe and himself, Oken observes in the same journal, "I hereby denounce any one who says, or even gives it to be understood, that I arrived either directly or indirectly through Goethe at the idea of the cranial vertebræ, as a base liar, slanderer, and injurer of another's reputation." ("Wherupon the libeller," he elsewhere adds, "held his tongue."—Tr.)

Then in the *Iris* for 1847 appeared Oken's impetuous rejoinder to the false statements made in Hegel's works, under the title, "Oken upon the Cranial Vertebræ, *versus* Hegel and Goethe." "I might," he there says, "have answered Goethe's spiteful and covert attack 'as to this theory having been thrust upon the public in a disorderly and imperfect manner,' but as he had not mentioned my name and so had not made any direct accusation against me, and as besides I lived at that time in Jena, it is easily seen that I should, by so doing, have got involved in the greatest unpleasantries." Oken then proceeds to give the following testimony of Dr. Kieser before the Association at Jena, in September, 1836, in allusion to the current report of his discovery of the signification of the cranial bones not having belonged to him, but having been borrowed from some one else. "Oken demonstrated his ideas to me at my own house in the year 1806, and in the spring of 1807, when I was living at Northeim, near Göttingen. The skull of a tortoise from my own collection, disarticulated for this very purpose by his own hands, has, happily enough, after the lapse of thirty years, been found. The bones of the cranium are distinctly marked by his own hand,

more excite our astonishment, since we cannot discover that Oken's political inclinations gave any handle for it whatever. Oken was at bottom no demagogue, and though suspected, as already shown, to be an instigator of the people by Kämptz, the police-director in Berlin, and that, too, after the Wartburg festival ; we have only to appeal, such being our safest course, to the very words that Oken himself addressed to the students upon that occasion to obtain a thorough contradiction to all such insinuations. Among other things he says to them, "Pray, keep yourselves from the delusion that Germany's existence, durability and honour depend upon yourselves. You are but young at present, and to youth belongs no and I rejoice in being able to exhibit before the meeting so substantial a proof of his rights of discovery." "I made this discovery," Oken himself says, "in the years 1806 and 1807" (see *Isis*, 1818, p. 511), "and wrote the treatise upon it when privat-docent at Göttingen, and thus at a time when Goethe, doubtless, knew nothing of my existence. The treatise was sent to be printed by Göpferdt as my inaugural discourse as professor at Jena, where Goethe was then privy councillor and curator of the university ; and this fact alone would be sufficient to contradict the bare-faced lie contained in Hegel's works as issued by his unprincipled editor." From all this it is clear enough, as I have already said, that it was the overzealous worshippers of Goethe who provoked Oken into breaking the long silence which he had observed towards him. It is very true also what Erdmann says of Goethe, that though his name was being used as one who had robbed Oken of his most brilliant discovery, he still would not come forward and confront him openly, as it were best for him to have done. So far back even as 1811, other disputes and misunderstandings had occurred between the two men, which, if regard be had to their different natures, cannot be wondered at, and proved a source of mutual repulsion. Upon the one hand was the highly aristocratic Goethe, upon whose feelings it jarred that any one should consult the *vox populi* as to what *one* man, in his opinion, might best do for himself, and who felt uneasy at having to come to any understanding with the public—upon the other the strictly monarchical and constitutional Oken. That two such men could not pull together was, as a result, inevitable.

other business than to live and thrive heartily—and so do not trouble yourselves about anything else than keeping the goal clearly in view towards which you must run. The State is at present a stranger to you, and belongs only to you in so far as you may some day become active members of it. Your business is not to think what may or may not happen in or to the State ; all that it befits you to consider is, how hereafter you may act in the State, and how best you may prepare yourself worthily for such a calling." At the present day any professor, holding such discourse would, you will agree with me, be counted highly conservative. Nay, more, Oken was not even a legitimate reformer, or one who may end at last by yearning after a republic ; but was, on the contrary, monarchical in a thorough-minded sense, his ideal being at once Kaiser and Empire. He was, it is true, *grossdeutsch*, that it is to say, though he very well recognized the import and vocation of Prussia (*Isis*, 1829, p. 218), he would himself have chosen the Kaiser of Austria as Kaiser of Germany, and that even so late as 1848. I am, however, convinced that had Oken lived to witness the years 1866 and '70 he would have stood second to no one in his fealty to the empire.

The dismissal of Oken from Jena and the whole procedure against the *Isis*, created an unusual sensation in Germany, for the journal was much read, and Oken's name one of the best known. As, however, always happens in such cases, the results to either proved very different ; for while, on the one hand, two months passed

away without any contributions finding their way into the *Isis* ("for two months," writes Oken, "and well-nigh nothing has come to hand; but how can you readers be fretting yourselves about such matters"?) upon the other, he received letters from all parts of Germany, which made full recognition of his manly conduct, while added to this, even subscriptions found their way to him.

The pains that were subsequently taken by Oken to find a situation in some of the universities led to no results, for Oken was too little in favour with the Diet that such should be the case. In 1819 he travelled as far as Munich to see if he might lecture in Würzburg; "my proposals, however, were not accepted," writes Oken, "in a manner that offered much inducement to me to go there." Nor were sundry overtures made to him from the University of Freiburg to undertake the professorship of physiology productive of any results.

Oken accordingly turned to account his enforced period of leisure by a stay in Paris, where he could study the rich collections of natural history.¹ It is plain that

¹ Oken (*vide Isis*, 1819, Etwas über den Pariser Königs-Garten), very significantly observes, as regards these rich collections of objects of natural history. "One must cordially acknowledge that the French have a keen sense of the utility of co-operation in promoting objects of general interest and instruction. If Cuvier wants money of the king and his ministers for the purposes of natural history, nay, more, if he makes the proposal to send one or another traveller to the Cape of Good Hope or the East Indies for the sake of procuring an hippopotamus or a dugong, he is not met by the chancellor of the exchequer with the curt reply, which in certain other countries would be given even by the ministers of public education, to the effect 'that we have no money for such trifles,' or by the ministers of war saying that 'I want soldiers,' or somebody else this or that; but every French minister pays strict attention to each branch of the administration, and does not look upon his own department as a sort of

he here for the first time collected the rich zoological material which rendered it possible for him to elaborate his great work upon Natural History. Numerous drawings and notes, which, obviously intended only for his own use, are scarcely more easy to decipher than his letters, give full evidence of the zeal with which his time was there spent.

It would seem, however, that Oken could not long resist his penchant for teaching, and so in September, 1821, we find him making application to the educational council in Basel, begging them to let him lecture at the university the following winter, 1821-22. His wishes were complied with, and in the Lections-catalogue for this term we find record made of his lectures on physio-philosophy, natural history and physiology. Oken only lectured for this one term and left Basel in the spring of 1822, after a proposal of the trustees to nominate him professor in ordinary to the medical faculty, had been rejected by the educational council.

In the summer of 1822, he visited the Swiss association of naturalists in Bern, but only that he might himself see with his own eyes the antetype so to speak of the first German association of a similar kind that was planned by him to meet at Leipzig in the September of the same year. Oken next appears to have settled down for some time in Jena with his *Isis*, which henceforth from 1823

kingdom of which he is petty sovereign, and out of which he must let nothing pass as if through a custom-house barrier. The French ministry know what a State really is, and how in the long run even great men and potentates will have to be governed by, or succumb to, the pens and brains of the learned ones of this earth."—(Tr.)

received no more political articles and busied itself only with literary or scientific topics.

In the year 1826, as I learn from certain letters, close communications were opened up with Münich, especially through the instrumentality of Ringseis. King Ludwig seems to have interested himself in a very active manner about Oken, and the latter expresses himself as in ecstacies of delight about the king. Oken settled in Münich in the spring of 1827, and during the summer of the same year, though still without holding any definite post, gave, provisionally, lectures at the university. By a decree of the 28th of December, 1827, he was summoned to be ordinary professor of physiology at the Münich University (with a salary of eight hundred florins and his board), and here he lectured, along with physiology, upon the natural history of man and nature-philosophy (which used to be called philosophical natural history), and then for the first time, 1827-28, and in 1828-29 four times, and subsequently no more upon the developmental history of nature. As at an earlier period of his career so here also he contrived to gather about him a crowd of animated listeners; and the king, too, was kindly disposed towards him, so that in the beginning all his circumstances seemed to wear a very favourable aspect. His relations, however, with Schelling appear from the outset to have been of no very friendly kind; while in other quarters things soon began to fall out of harmony with each other. At the end of 1829, the University of Würzburg proposed Oken for the vacant professorship of physiology, and his

friends there, especially Schönlein, urged him to notify to the Bavarian ministry his readiness to accept the situation. And this Oken did. Hereupon, however, a communication was made to the newspapers that Oken was about to be *transferred* to Würzburg, and that the sanctimonious party in Münich had had a hand in playing out this game. Hereupon Oken protested, in the paper called *Inland*, against this version of the matter in very angry terms, which were by no means called for, attacking the expression "*transferred*," as it was not customary, he said, to deal in this way with professors, but simply to "summon" them to their posts. By-and-by, however, he gave up the point, and consented readily to go to Würzburg, as he hoped to find there an university feeling which he had sadly missed among the professors at Münich, and upon the other hand something better than the want of liberality and the decrepitude so apparent in the institutions and arrangements of that town.

When we bear in mind how, at a much later period, when, *e.g.* under the rule of King Max. II., the differences and antipathies of the German race had become much more equalized, those so-called *foreign* professors, who had been called from *outlying* dominions, although very reserved in their behaviour, were yet looked upon with a sinister eye, we may well imagine what a storm of indignation was aroused by this manifesto of Oken, in which he had attacked not only the government but its colleges and the administration of its institutes (such as the library and natural history collection). Oken had not long to wait for an answer. The superintendents of the

institutes retorted, to the charge of illiberality which had been brought against them, by citing the misuse of his position of which Oken had been guilty. The quarrel was now carried on on both sides with increased exasperation, while "seconds," joining in the fray, by no means lessened the bitterness of the strife. Matters reached a still higher pitch when Oken proceeded to attack the Bavarian school arrangements planned by Thiersch, because no regard whatever had been paid in them to the natural sciences.

Now, while in the first squabble we must confess that Oken was by no means in the right, nay more, had actually incumbered the conflict by the rudeness of his manifesto, we must, as regards the second point, range ourselves without reserve on the side of Oken; for he had in his essay upon the admission of the natural sciences into the general curriculum of instruction ("Für die Aufnahme der Naturwissenschaften in den allgemeinen Unterricht") expressed himself in such a classical way as to the importance of the natural sciences in school-teaching that his advocates have nothing more to do than tender him their hearty thanks.¹

The results of all these trifling differences were not

¹ This proposal for the reception of the Physical Sciences into the curriculum of general instruction is to be found printed in the *Ausland*, 1829, Nos. 333-4, and in the *Isis*, 1829, part xii. p. 1226. The following extract must suffice: "What, say the philologists as an objection, would it not be out of all order to meddle with the sciences in the lower schools when they are already taught in the universities? To which we reply, 'What you require for *yourselves* we also stand in need of for *ourselves*. You first of all let the children learn their letters from their mothers and play-fellows; you then take them into school and teach them to form and set words in

slow to declare themselves. Oken had, in a word, wounded so many persons, and of these not a few influential ones, that a blow had been struck even at headquarters. His position at München was and remained undermined, and it was a question of time only when and how his dismissal from office should be made to follow. As a forerunner of this, in June, 1830, a rule was issued limiting the use of the collections, and in April, 1832, the chair of zoology in the university was by a ministerial decree transferred to the University of Erlangen. It was obviously as a matter of concern only for the interests of his family that Oken was induced to make application to the State ministry (July, 1832) for exemption from the professorship in Erlangen, and to beg to be left where he was in München ; and as this request was but reluctantly conceded he proceeded to

order according to rule, *i.e.* by their meaning ; finally, in the university you philosophize upon the subject and make them acquainted with the internal and logical connection of language.

" And so also are there three stages of instruction for the natural sciences. First, that of the collection of materials ; secondly, their arrangement, and lastly that of the building up or superstructure of knowledge, *i.e.* your *copia verborum*, grammar, and philosophical disquisitions, corresponding to the three stages of the preparatory school, the gymnasium and the university.

" How would you philologists manage to begin with your pupils if they had not previously got hold of words from their mothers ? What a very comical and vexatious figure you would cut in the school if you had first of all to teach the children how to speak ! And yet this is the very thing you would charge us university professors with having to do as regards the natural sciences. In plain words the students are to learn from us, first like children, how to distinguish worms from insects, snails from other mollusca, cabbages, stones," etc.

The reply of Thiersch as to *why the sciences should not be admitted into the plan of arrangement adopted by the Latin schools and gymnasia* is to be found in the *Inland Journal*, No. 344, December 10th, 1829.

explain in a second application, which had better never have been made, how he had himself thought "of entering, in a becoming manner, into negotiations for the professorship to be transferred to him in Erlangen, so soon as a formal 'call' had been made him, such as was customary in dealing with professors." After all that had occurred, the answer to the above could not long remain doubtful. A State decree of the 25th of October, 1832, clenched the matter by reminding him, in a very laconic fashion, "that since 1827 he had been a subject of Bavaria, and that under these circumstances there could be no question raised about a 'call.' He must either enter upon the situation at Erlangen or renounce all civil employment." To this Oken's reply could no longer be doubtful ; he chose the latter step.¹

And thus the man of fifty-three years, having no settled income, was again cast adrift upon the world, and this time without the prospect of any settled occupation.

The news that Oken had been legally dealt with by the authorities in Bavaria created, naturally enough, a

¹ It is a bright feature in Oken's character that, years after these occurrences, he took the opportunity of proving to the University of Erlangen that after all it was only the way in which he had been *transferred* (*die Verzetzung*) that had prevented him from formerly becoming one of their members. On the occasion of the centenary festival of that university in the year 1843, some of its former pupils in Nüremberg made an appeal to all friends and pupils of the Friderico-Alexandrina Institute for contributions in behalf of a scholarship fund for the support of poor and needy students. Whereupon Oken sent from Zürich the notable sum of 210 florins, with a letter addressed to the senate, hoping "that they would accept this as a testimony of the thorough good will which he bore towards that body, however circumstances might have formerly stood in the way of his joining it."

great stir in Germany. In several places efforts were made to prepare some new asylum for this much-tried man. In Freiburg, to begin with. In February, the medical faculty of that university made a proposal to call Oken to fill the place of Sigm. Schulze, but the ministry of state rejected this, and Winter, who was then state secretary, said, as a rejoinder to a certain Freiburger who was pleading Oken's cause, "Ay, you may yet require Oken in Freiburg: you have not yet got enough liberals here" (alluding to Rotteck and Welcker). Thereupon negotiations would appear to have been opened up with Berlin. Certain colleges well disposed towards him were for bringing him into the academy, in which case he would have had the right of delivering lectures at the university; but, unfortunately, neither these nor certain other instructions proceeding from the curatorium at Dresden and connected with a professorship at Leipzig, led to any favourable results. Meanwhile the pains that were taken to secure Oken for the newly founded University of Zürich, and which proceeded chiefly from Schönlein and Follen, turned out more successfully; and so on the 5th of January, 1833, he was nominated by the Education Board of Zürich ordinary Professor in the Philosophical Faculty, "with special reference to the department of the Natural Sciences."¹

A time now of beneficial rest was conceded to this

¹ On the 6th of November, 1832, Oken had, as already stated, resigned his professorship in München. But on the 31st of November, Follen in Zürich had already sent him the following letter, having been commissioned to do so by Hirzel the burgomaster and president of the educational council.

"Hirzel begs me very earnestly to write to you and ask you in plain

oft-tried man. Oken was held in the highest respect in all his colleges and among his Swiss fellow-citizens, and was honoured with such truly devotional feeling as to be chosen rector of the new university.

It was here in Zürich that he gave himself up with renewed activity to his favourite studies; preparing a third edition of his "Philosophy of Nature"; and finally completing his great "Allgemeine Naturgeschichte" of thirteen volumes—a book full of learning, containing much valuable information about the habits of animals, and one that has done much to disseminate a taste for the natural sciences among general readers, while by compilers and specialists its pages have been in many ways used, but not so frequently acknowledged.

He now began to revive the cultivation of other departments of science, which he had in former days

terms, whether you have any wish to take up a professorship of philosophy or medicine on the occasion of the university opening next Easter, 1833. He would have written to you himself, but is very afraid of getting a down-right refusal, and so expects me, in case matters should so turn out, to take the business he says upon my own broad shoulders, though, heaven knows, they are but ill-fitted to sustain the burden of such sublunary responsibilities."

It is probable that Oken gave in his acceptance to the call to Zürich in November, whereupon, as stated in the text, followed his nomination to office by the Zürich government on January 5th, 1833.

On the 12th of March, 1833, the Swiss students of Munich were desirous of getting up a serenade to their departing professor, but this step was forbidden by the police. On April the 22nd, Oken entered Zürich and was received with public rejoicing. His salary amounted to 2200 Swiss francs, equal to about 2500 marks. My worthy friend Henle writes me word, "From all that I can gather from the times of our Zürich collegiate, Oken stood in the highest regard with us juniors, and was honoured with a genuine devotion. The parish of Wipkingen near Zürich conferred upon him the rights of a citizen."

pursued with success, especially that of archæology, and during different vacation trips busied himself chiefly with tracking out the old Roman roads in the upper districts of the Danube. His lectures in Zürich were again upon physiology, according to philosophical principles, physio-philosophy and natural history.

The *Isis* came to an end in the year 1848. As it had not taken in anything political (since 1823) it had no further motive for giving forth any political opinions, though the course of events was still attentively followed, as is evident from many letters. Among these we find one from Louis Napoleon, written in German and in German characters also, and dated 4th of August, 1837. It seems that Oken had made some remarks upon the Strassburg adventure, and Napoleon justifies himself in this by saying "that it was with him a kind of physiological experiment—a galvanic test applied to ascertain whether the great body of France was actually dead or no. The experiment, however, though it has by an unlucky accident proved a failure, has," he adds, "served to convince him that life is not yet extinct, and that it needs only an electric spark to set all its former power and glory into a blaze."

So far; and now gradually came the days of which it pains me truly to speak. He who had been hitherto so robust and active began to sicken, an affection of the bladder set in, which finally produced peritonitis, ending in his death on the 11th of August, 1851, aged 72.

In the year 1814, Oken had married Louisa, the daughter of Stark, the Aulic councillor of Saxe-Weimar,

and by him she stood steadfastly through thirty-six years of a happy married life, and survived him several years. Of his two children the son, Offo, turned out but a small source of comfort to his father, and died first. The gifted daughter, Clotilda, whom her father loved most tenderly, married a Würzburg physician, Dr. Reuss, and in 1873 followed her father to the grave.

Having thus endeavoured to give in a few fleeting outlines the main course of Oken's life, it remains only for me now to present the reader with some picture of him drawn not only from an external point of view or as regards his personal appearance, but also from his character and mental capacities, in so far as the latter are made apparent by the unbiassed consideration of the events of his life and its intellectual history ; and finally to conclude this sketch with some consideration of the influence exercised by Oken, not only upon German science, but through this also upon the land of his birth.

Whoever had seen Oken must have been struck at once by the impression made upon them of one who had a very striking personal appearance. If we would express ourselves ethnographically, we should be constrained to say that he exhibited none of the characters of the so-called Teutonic race. The small and slender form, the strikingly dark southern tint, the glossy-black curly hair, the large, bright and auburn eyes, gave one the impression of a native of southern lands. His head, too, was of the bracycephalic type, and I should myself feel inclined to compare its whole appearance somewhat with

that of a Hindoo, so far as one can give a general idea of it (although upon the whole the latter generally passes muster as dolichocephalic). In no respect, however, was the impression made by him of a Semitic character. It is not altogether uninteresting to mention as a fact what I was told by the above-mentioned old pastor of Oken's native village, to whom I am indebted for most of the notices of his early years ; that in the same village many whole families are met with of a striking brunette colour, many being unusually dark, and especially the branch of the Okenfusses who were swarthy, very swarthy, many indeed of them having a true gipsy tint, not only of body but of face. The clear-cut outline of his profile, with the bright and intelligent eye, mirrored forth, as it were, the activity of his soul, just as his determined, upright gait evinced the decision and firmness of his character.

The most prominent feature in his character was his inflexible will, his unyielding firmness, his straightforwardness and candour, amounting frequently to a roughness of manner, which very often expressed itself in a trenchant way. If these peculiarities were, on the one hand, the cause of Oken's becoming involved in so many conflicts, on the other hand it is to the very same that we must assign the fact of his coming clean and unspotted out of every struggle. Unselfish to a high degree, although a poor man, he would from time to time even institute prizes out of the proceeds of the *Isis* for the promotion of scientific work !

No less was he distinguished for his love of humanity, his honesty, sincerity and gratitude. He was always

ready to succour the oppressed ; to his friends he clung with inviolable constancy ; benefits received he never forgot, and sought often in the later years of his life to repay them.¹ He clung with a loving heart to his teachers and the establishments where he had received his education ; above all to the foundation school of this town and to the University of Freiburg.² In short, I

¹ As an illustration of this there lies before me a letter to my mother from Oken of the year 1842, in which he begs her to hand over to the aged widow of Professor L——, a considerable sum of money which he has placed to her credit with banker K——, stating how many kindnesses he had received from her during his time of study, and to tell her that it is but a late and trifling testimony of his wish to repay an old debt of gratitude for all these gifts. He then adds : " But mind, this is all to be between ourselves, and let no one know anything about it. You need not therefore write to me about it, as I know all this little business has been properly managed. Tell her from me that I have not been able to do this sooner although it has often lain in my thoughts." In returning thanks, the son, Herr Kr. G. R. L——, writes as follows : " It is a constant source of joy to my good and aged mother that she is able to boast of having formerly had a man like yourself in her house as a friend and intimate acquaintance. That you, however, after so long a period and so many memorable events should still remember my old mother in her retirement and give such striking proofs of gratitude, for what was barely worth mentioning and more than compensated for by the intellectual pleasure of your society—this has indeed filled with joy the heart of my aged and pious parent."

² Mention has already been made of Oken's attachment to his *alma mater* at Freiburg, and his gratitude towards her, further proofs of which may be met with in his correspondence. His defence of the University of Friburg is to be found in the first vol. of the *Isis* for 1817, p. 491. In the series for 1830 Oken treats in detail of the institutes of the university, p. 453, and in the same year, p. 854, he expresses his thanks to two of his teachers, upon the occasion of a jubilee held in honour of Schmiederer, and also of my own father (Ecker). Some excuse may be made for my own feelings in the latter case, if I here quote the reverential words uttered by Oken. " The university has now lost its Ecker, one of the most learned physicians of Germany, and one thoroughly acquainted with the works of the ancients. Both he and Schmiederer were for a long series of years the props of the medical faculty ; and they will long live in the recollection of that body,

cannot better sum up these characteristics of Oken than in the concluding words of an *eloge* delivered after his death at Zürich, in 1851, by one of his college friends, and which I regret to say was never printed. "You all knew him, how keen and lively his speech, how gentle he was and open-handed, how firm and iron-like his will!"

as also that of their grateful pupils" (amongst whom must be happily included myself).

In a *toast* which was once given at a meeting, Oken expresses himself as follows: "The love for the fatherland is expressive of a physical relation but is no virtue in itself. Ovid has already said: 'Nescio quid,' 'I know not what pleasant feelings draw me to my home, although I have only experienced what is bitter at her hands, and have been doomed to grief in a foreign land.' If, therefore, I cherish any love for my country, and from such a motive have done anything for it, I deserve no thanks. On the contrary, it is *my* thanks which are due to those who have furnished me with support and instruction, both in Offenburg, Baden, and Freiburg. After completing my studies, so to speak, at Offenburg, I went to Baden, where my eyes were first opened to the fields of science, and where I acquired my first disposition towards the study of nature. I have in all this been powerfully and kindly supported by a genial and straightforward class of people. Nueffer gave lessons upon anatomy in a thorough and painstaking way. Menziger inspired me with a love for chemistry and botany; but above all Ecker has been our attraction, through his florid style of delivery, and has by his comprehensive literary knowledge and insight into the wide domain of science inspired us with respect for the latter, and roused us to make trial of ourselves upon the same ground. Meanwhile, if I have ventured myself upon doing anything, I am indebted to your influences, and in here expressing my acknowledgments, I do but fulfil a duty in refunding with interest some of the capital entrusted to my charge. However, such is but a small matter to speak of. I am rejoiced to see the university in such a flourishing condition, and trust from my very heart that you may be supported in all your endeavours, just as you have supported me. I now drink to your long life and prosperity."

(The above was in all probability spoken at a banquet given to him as a memento of gratitude for his powerful advocacy of the rights of the university. The exact time is not known to me, but I imagine it was in the year 1822, when Oken took up his abode for a short period in Freiburg.)

As regards his mental capacities, these were already distinctly manifested at an early period of his life, and indicated the course which he would take. It has indeed been said of Oken that if he had had at his command the materials of Cuvier he would have become a great zoologist and comparative anatomist; while inversely Cuvier, placed at a small German university, would have fallen into the speculative vein of thought. This statement, however, is thoroughly incorrect. I have not heard that Oken as a young man ever collected and dissected beetles and other insects, snails, etc., as Cuvier did; on the contrary, he had in the second year of his medical studies built up a whole system of Nature-philosophy, which at a later period he did but enlarge and complete. And so, while an overruling instinct led the one at an early period to observation of, and inquiry into, individual objects, the other with youthful enthusiasm strove to embrace and comprehend the whole universe.

"There are always two roads by which," says our great investigator, C. E. von Baer, "the study of nature may be advanced, viz.: Observation and Reflection; and it is to one or other of these two courses that students usually have recourse. The one party inquires after facts, the other after results and general laws; the former after information, the latter after true knowledge; the one are regarded as cautious, the other as deep-seeing observers. Happily the human mind is but rarely constituted in such a one-sided manner that it is possible for it to tread only one path of investigation without

taking heed to the other. He who despises abstraction is often compelled in the course of his observation to let sundry thoughts steal in upon him unawares ; and it is only in short periods, you may say, of fever-heat, that his opponent has the power of giving himself up with utter disregard of experience to the full tide of speculation in the fields of science. Meanwhile, both for individuals as well as whole periods of science, the one tendency as being that to which one gives one's self up with a definite object, remains always the predominating one, though the presence of the other may not be wanting."

Now in Oken it was obvious that the reflective, deductive and synthetic tendency of mind was developed to a disproportionate degree. It was granted to him in but small measure to tread the wearisome path of induction, to ascend from the individual or singular to the general, and so from effects to form conclusions as to their cause ; and so while a true system of Nature-philosophy ought agreeably to its subject to form its conclusions from a long series of inductive and analytical observations, it here sprung ready-formed, so to speak, from out the brains of the young student of medicine. It ran counter to his genius, as his friend and fellow pupil Huschke says, to store up in his mind any kind of empirical facts in an irrelative and unsystematic manner ; what he sought for was their connection, comparison, and, often too hastily, their arrangement. He did not possess, as Henle calls it, the "virtue of intellectual abnegation," in other words, of guarding against the value of sense-impressions being lost in the unbridled

career of one's own thoughts, and so it often came to pass that in becoming restlessly conscious of the narrow limits within which he was bound, he soared into vague altitudes, and while, as the proverb has it, others "could not see the wood for the trees," *he* not only could not recognize the wood, but lost all cognizance of the infinite variety of the trees that composed it. But meanwhile, in drawing the above outline of Oken's mental talents, we must not lose sight of the fact that he was literally possessed by the prevailing speculative tendency of his times, and from being a follower of it soon became its leader. Still, with all this, Oken unites in himself to a degree that cannot be granted to the other leaders of the physiophilosophical school, a far greater measure of the two leading tendencies so admirably depicted by Von Baer, though one of these it is true got decidedly the upper hand with him.

It is very customary at the present day (and many there are who think they would lose their own self-respect by not chiming in with a general opinion) to regard the period of Oken's "Philosophy of Nature" as a kind of mad fit which has passed into oblivion, and to which has now succeeded a well-grounded and sober spirit of inquiry. And true it is that the injurious effects of this speculative method are not to be denied. Oken's playing, so to speak, with "polarities," and with comparisons, which are often more poetical or imaginative than scientific, has in the hands of his less gifted followers led indeed to a very superficial comprehension of nature from which persons of more earnest thought have gradu-

ally turned aside. And it was these excesses which have in the end caused a reaction, such as Von Baer justly observes, occurs every time, in nature's healing process, when one tendency has been carried out to the fullest extreme. About thirty years ago we found ourselves carried away by the opposite tide of a diligent investigation of details which especially, as regards microscopical inquiry, was followed by the most brilliant results, as for example, in the theory of cells. And now we are entering again upon a new speculative period, a new kind of physiophilosophy which may be called the Darwinian. And, meanwhile, it is to be hoped that we may take example from the Icarus-like fate of the first, and not, like it, abandon too early the solid groundwork of facts.

Upon the other hand, no one will deny that the influence of Oken upon German science has been in many respects of a stimulating and vivifying character, and that much was uttered prophetically by him, which later investigations have brought to light. His "Programm Über die Bedeutung der Schädelknochen" may well, as already hinted at, be regarded as the precursor of the present morphological view of the skeleton or "Beinphilosophie," such as has been built up by Owen, Gegenbaur, and others. And when Oken says, "The basic element of the organic world is carbon. The carbon itself must be in texture at one and the same time solid and fluid or in a word mucilaginous. Everything organic has proceeded from mucilage. The primary mucilage or slime out of which everything has issued is that of the sea,"

we have a pretty tolerable announcement in such words of the protoplasma-theory and of *bathybius*. And when again he says, "The first transition of the inorganic into the organic is a cell, which I have called an infusorium, and that animals and plants are nothing else than a multiplication of such cells," we must acknowledge that, nowadays when we are in the habit of recognizing unicellular animals, contractile and vagrant cells, these prophetic words of Oken are not so very far removed from the truth. And when again he declares the business of Nature-philosophy to consist in showing, "how the elements and natural bodies originated, how they evolved themselves into higher and more complex forms, separated into minerals, finally became organic, and in man attained to self-consciousness," we have in all this the future problem of Darwin's theory pretty well mapped out.

Upon summing up all that has been said, we cannot affirm that Oken was a philosopher pre-eminently remarkable for the acumen of his abstract thought; for to him it was never granted to follow out the Cartesian prescript of doubt. Nor can he be said to take first rank among the exact investigators of nature, who traverse the toilsome road of induction step by step, though it be very true that he grapples with the parallelisms and analogies of nature with rare geniality and often in a truly poetic sense. It is therefore not so strange or unreasonable to find many philosophers who reject him as belonging to their body and turn him over to the naturalists, while the latter on the contrary will only recognize

philosopher. Thus we are taught by Oken's that, though the whole body of natural investigation gains first its true scientific character through the deductive or philosophical mode of treatment, which admits of arguing from the sure ground of principles to necessary results (a stage upon which physical science rests in part), it is still better able to attain this goal by the surer path of inductive inquiry. And by this path only is a Philosophy of Nature, truly deserving that name, rendered possible.

We must not overlook the influence which Oken exercised over the German language. He was constantly striving to introduce it into the natural sciences, and to increase its wealth of expression by drawing from the rich wells of idiom to be met with in the Altdeutsch and Süddeutsch dialects. It is true that but few of these new terms, such as *Kerfe*, for coleoptera, *Lurche*, for reptiles, *Quallen*, for medusæ, have succeeded in gaining any footing amongst us, yet still it is not to be denied that many others deserve admission into our scientific vocabularies.

Finally, Oken has earned no slight merit, in this, that at a time when scientific interchange of thought stood at a very low ebb in Germany, he threw considerable life into it by the publication of the *Isis*, but above all else by his instituting the scientific associations among his countrymen. If this alone had been his *only* creation, which even his greatest enemies will not take upon them to declare, there would still remain enough of merit and renown in the project to justify our dwelling upon it,

however briefly, before bringing our present remarks to a close.

In the *Isis*, 1817, we find a report by Oken apropos of the fact that in our neighbourland of Switzerland, some lovers of natural science had in October, 1815, betaken themselves to Geneva in order to lay there the foundations of an Helvetic Scientific Society, and in referring to the first meeting of this society in Bern, 1816, he speaks in high terms of learned men meeting in such a friendly way among themselves, and naturally asks, Why such should only be the case in Switzerland? Upon this follow regular reports of the meetings of this Society, and in the *Isis* of 1820 we find an advertisement stating that an earnest appeal will be shortly made for forming an association of German naturalists after the model of the Swiss, and this appeal appeared in the *Isis* of 1821. Oken there directs attention to the praiseworthy beginning made by the Swiss, and the important bearings it must have upon science and the community at large, and then proceeds to descant in particular upon the advantages which such a free intercourse of the learned must have also upon Germany. It may well be said that such associations have now become the general wish of German inquirers; and it was by building upon this, which was then a latent feeling, that the invitation to the first association in Leipzig was issued in September, 1822. After this invitation had been issued, came a letter from a German professor (one Goldfuss), literally teeming with scruples as to how all this was to be managed, and which called forth from Oken a genuine outburst of feeling.

Methinks I hear him at this very moment when, with flaming eyes and a strong spice of the Ortenau dialect, which he was never able to get rid of, he gave utterance to the following words : " In this letter you see the true German, both from before and behind, from above as well as below. Scruples with him as to purse, scruples as to the journey, scruples as to strange faces, scruples as to quarters, scruples as to knowledge, scruples as to assembly rooms, scruples as to the governments ! It remains only for me to say that so soon as I have notification of two dozen members, they shall be duly printed off in the *Isis*."

And so it came to pass. On the 18th of September, 1822, was opened the first Association in Leipzig, but certainly under very small patronage—there being only nine strangers and four Leipzigers. In this association the rules or statutes were planned, and remained established as we now find them—a proof with how much tact they had been devised. The point held in view by them from the very beginning in establishing these Associations, namely, the personal acquaintance of the learned with each other, still subsists, and nowhere has this feature been expressed in fairer terms than by Humboldt, on the opening of the Berlin Association in 1828. " What we strive after," he said, " is the personal intercourse or bringing together of those who cultivate the same field of science ; the more vivifying, because outspoken interchange of ideas, whether expressed in the form of facts, opinions, or doubts ; the foundation of friendly relations such as ensure fresh light to the sciences, impart to

life a brighter grace, and toleration and gentleness to our manners." Oken was present himself at the nine first associations held in Leipzig, Halle, Würzburg, Frankfort, Dresden, Münich, Berlin, Heidelberg, Hamburg (1822-30), then again at the fifteenth, in Freiburg (1838), but henceforth at no more.

- Despite the permanent rules, however, in course of time many efficient changes were made in the internal organization of these social gatherings. Thus, with the increasing number of those who took a place in the meetings and the more and more increasing division of labour, the general sittings were found not to suffice, and for the first time at Berlin, in 1828, sectional meetings were introduced, upon which rested from henceforth the principal burden of the congress. With all this the import of the general sittings was of course changed, as upon these now devolved the business of knitting the bands of friendship between the specialists and the general public, and so carrying the natural sciences into wider circles. The number of these sittings can now be conveniently lowered from six to five.¹

¹ In the literary supplement of the *Isis* for 1821, p. 196, Oken observes, that, in respect of his projected scheme for forming scientific associations, he has received such a number of concurrent voices, that he must needs look upon these as expressing a general wish upon the part of all German students of nature; and then he proceeds to say, "And yet, despite all this, we have hitherto seen no institutions of the kind. And how is this? we have been often asked. Now, as the question concerns the good of science, and the well-being and honour of the fatherland, nay, more, the better understanding of the friends of nature amongst themselves, it would be very perverse not to set before you in a plain and candid manner the causes which have hitherto rendered the realization of such a noble wish unattainable. The reason, then, why no preparations have been made

May I be allowed the opportunity on this occasion of uttering a word of warning against neutralizing the decided advantages of the sections by subdividing them too much. It is no longer a subject-matter for doubt, that the more the several branches of the healing art are separated from the common parent stem, by so much the greater is the risk they run of getting finally detached from the sciences and becoming the appurtenance of a trade.

What a happy thought was this of the German associations by Oken is seen by its results. Similar meetings originated in England, Scandinavia, and Italy, and many a time must Oken have been thought of, if not highly praised. Even France, after the great war of 1871, followed the example, though in some measure with a different purpose. While it was the business of German associations to collect and unite the scattered members of the fatherland, the French were striving on the other hand to counteract the extreme centralization by bringing scientific life into the provinces instead of concentrating all into the focus of Parisian life.

towards forming associations for German naturalists, has been the fear lest sundry unscientific heads might manage to get an inkling of some secret alliance and, finding the gathering together of men from all parts of the country quite unsuited to their own short-sighted views, proceed to slander them before the governments. But," continues Oken, "we may safely declare that the governments—which must be sufficiently clear as to the springs of all these calumnies—must view with satisfaction a meeting of German scientific men, must approve the same, and, as a matter of course, give it their support." In a few brief sentences Oken then proceeds to map out his proposals as to the associations, whereupon follows the letter of Goldfuss mentioned in the text and our professor's lively outburst of feeling.

Many other yearly gatherings of the most different branches of science, art, and industry (such even as of clothing and hairdressing) must acknowledge the association of German naturalists and medical men as their venerable mother, and though the latter may be by no means disposed to answer for the doings of her numerous progeny, still all this speaks loudly for the seasonable and fruitful character of Oken's thought.

With the scientific unity, too, of Germany the political has gone on also silently increasing. And it has long since been recognized what an important part our association has played in fostering the idea of our unity as a nation.

In a word, what Oken strove and struggled for, namely, the unification of Germany under one Kaiser and one empire, is now an accomplished fact. But just as youth is constantly anticipating and predicting the coming time, or, as it were, greeting the dawn of day, while all around still prevails a thick darkness, and is then accused by the unpleasantly awakened sleeper of having disturbed his repose, so was it also with the youthful spirit of Oken.

It was he who in hard times raised his voice ; it was he who aroused the sleepers, and for this he has suffered and endured.

Let us, then, honour his memory after a fashion that shall outlive this fleeting hour.

SELECTIONS FROM OKEN'S CORRESPONDENCE.

OKEN TO ESCHENMAYER.¹*Freiburg, January 15th, 1804.*

I have worked so hard at my "Sketch of Physiophilosophy," that I believe I shall soon be able to publish it. What I have principally striven to render clear, was the identity of Nature's dealings with those of Mathematics, and in addition to this, the little work has been so enlarged by references to empirical data, at which I have been working for the last two years, that I intend dividing it into two parts, the first of which is to go as far as the "Theory of the Senses, and the classification of animals based thereupon." With this view I have literally ransacked the pages of Harwood's "Comparative Anatomy," Treviranus's "Biology," Bohadsch's "De Animalculis Marinis," Ellis, Bonnet, Swammerdam, Blasius and others, and found to my satisfaction the most convincing proofs of my theory, while at the same time I have never omitted to cite my sources of information. Before, however, stating what I have had in view in writing you this letter, I may as well tell you that I have managed to bring all the leading products of Nature into harmony with my system, so that you may form some notion of my success, the more especially as my deep-rooted predilection for this system has served many a time to convince me that the empirical proofs would turn out just as easily as I wished them to do. I must now be plain-spoken towards you. I am a stranger in the world with but small means and few acquaintances, so that I cannot very well come to terms by myself with any publisher. If you regard me as worthy of your friendship, please do me this favour. You are well known

¹ K. A. Eschenmayer was about this time district physician at Kirchheim, and Oken still a student in Freiburg. He had sent Eschenmayer his first essay entitled, "Uebersicht des Grundrisses des Systems der Naturphilosophie" (Frankfurt, 1802), and the latter had expressed himself favourably concerning it.

in Germany, and a word from you is sufficient to recommend my little work to any publisher, provided you find it worthy of publication. I know that you value it to a certain extent, and the trouble you have taken in turning over the pages, is a sufficient guarantee to me that you will not be offended by my request.

OKEN TO JOH. MATTHIAS ECKER (my father), B. 1766, D. 1829.

Göttingen (without date, probably 1805).

You have no doubt read in the *Göttinger Anzeigen* the announcement of my discovery, read before the Natural History Society. I should have sent you word about it long ago if the copper-plates had been ready; but as it is, I trust it will be more agreeable to you to be able to compare the illustrations with the text.

I anatomized the embryos of five pigs of about twenty-four days' development, and found that the intestines stand in communication with the *vesicula umbilicalis* or *tunica erythroides*. They are not merely adherent to it, but form one continuum with it just as the duodenum does with the stomach. I shortly afterwards investigated some more developed embryos of dogs, and found the intestines similarly disposed but already detached from the vesicle. Finally, I had an opportunity of examining some human embryos, and can now positively declare that, in Man and all the *Mammalia* the intestines stand originally in communication with the umbilical vesicle, and constitute *one* organ along with this; that at a later period they are severed from it and withdrawn into the abdominal cavity, while the *omphalo-mesenteric* vessels remain for a longer time, but are finally obliterated, becoming detached from the mesentery and continuing to lie within the umbilical cord. Most embryos of eight weeks have the intestines lying in front of the umbilicus, and this condition of things is supposed to be a hernia, but is not so, being merely the intestines which are not as yet perfectly retracted within the abdominal cavity. And now for an explanation of the "appendix vermiciformis"—this is virtually the channel of communication between the *vesicula umbilicalis* and the intestines, and has consequently in the adult the same signification as the thymus and the renal glands, etc.; the angular insertion

of the ileum into the cœcum and the intervening valve originate through the two intestines lying parallel within the umbilical cord and opening in close juxtaposition into the vesicle. In the process of obliteration an opening remains in the partition wall of the two intestines, so that the ileum and cœcum do not form a continuum with each other, but are two pieces of the intestine that have coalesced or grown together. Accept this communication as a proof of my gratitude and regard.

Yours, etc.,

OKEN.

OKEN TO SCHELLING.

Halle, May 2nd, 1805.

I cannot put off writing to you any longer. You would be surprised to hear with what enthusiasm and love Steffens speaks of you. I was charmed to hear any one spoken of in such a free and hearty manner, but as to the idle tales about Würzburg and yourself which every one who met me inquired about, they put me out of countenance altogether.

It fared just the same with me in Jena, where there is always a general lamentation going on; every word you may say, that does not forebode the downfall of the Southern Universities, is like a dagger thrust into the good people there, who are well enough in their way, and although cast in a common sort of mould, behave towards strangers in a manner that I have met with nowhere else, and will work like beasts of burden until their backs break. In short, I could live for ever in Jena or Heidelberg. I must tell you that Steffens would like to go to Heidelberg, but matters fare with him as they would with a maiden at a dance. Just at present there is a restless striving on the part of the North to swamp the South, but fortunately this is the work only of small folk and some learned men, who ought to observe due measure as to their proceedings. Look out and you may see me going to Heidelberg and continuing the petty Posselt riotings. I will write an hylogeny of the Heidelberg vat and dedicate it to Edelsheim. In Weimar I was at the theatre. Goethe I did not see, but only the Grand Duke and suite. I went up the Hussitenberg near Naumburg and saw a rare lot of children running about the streets who have literally

turned the prayers they learnt at their bedside into a perfect system of begging. I can now very well understand how it is that the roughest general indulged them, for the young innocents would not let him take a step till he had given them quarter. The country about here is beautiful, and may rank second to Breisgau, as regards its osier beds, but otherwise I find everything in Saxony hideous, without taking into my estimate the poverty that stares at you from every window, although there may be curtains before every cobbler's stall, or my having to wade patiently through miserable field-paths, not knowing which is road and which is pasture ; and then, to crown all, having to gulp down without any relish the sour, black wheaten bread and the middling good though thin or watery beer. Oh South ! oh North, you poles with what a fearful gap between you ! To-morrow I go by Eisleben and Nordhausen to Göttingen, and in five days am there. Kind regards to your wife, Fuchs, and Döllinger.

FROM THE SAME.

Göttingen, May 24th, 1805.

Many thanks to you for the letter to Blumenbach. I had been here some days before I got it and passed it into his hands. But now wait a bit and you shall hear the results. He received me very kindly, but not in the same manly way as did Himly. "Entre nous," be it said, Blumenbach is in his lectures—well, what shall I call him—not a charlatan, but a merry Andrew and old curiosity monger, the like of which I have never seen before. What is really important he scarcely makes a subject of conversation, and if he does so, he has no other resource than mere words such as he has picked up from some of the big wigs of Göttingen or out of a book-store. Upon trifles, however, caricatures and trivialities, as he himself calls them, he will chatter away for whole hours at a time, and that with a circumstantiality of detail, as if he had sixty children of ten years of age sitting before him ; so that one must frequently feel ashamed if any one stopping outside the windows to listen should see so many grown up people seated inside. When he comes into the college I always fancy that I see Peterle in "Menschenhass und Reue" springing after a butterfly, while anon he tells you for

about half an hour how a certain pastor in the Thüringen forest tamed a company of mice who played about and eat off a fork, how a maiden from Bern taught twenty-four different beasts to take their dinners out of one dish, such *e.g.* as a fox and hen, martin and pigeon, a dog and a cat, etc., etc. And then, after stating that he would not waste his words like other professors upon the utility of natural history as being a something that lay before every child's nose, he would proceed to descant for a whole hour, as to how necessary it was to a theologian for understanding his Bible, so that I used literally to wonder why he did not haul in the very beasts out of the Apocalypse. He one day brought with him, to elucidate the 23rd page of his new Handbook, an ancient portrait of an old woman of eighty who lived in Appenzell, and had a greyish beard, as compact and thick as that of a sturdy Capuchin friar. That was indeed a glorious sight ! Some days afterwards I asked him if he knew whether she had had any children. God forbid ! no, he replied, when in fact he could know nothing at all about it, and I retorted by saying that she might have been a kind of hermaphrodite, like Madame Breville who was recently exhibited in Paris. This puzzled him a bit, and I saw that he was very displeased at my not wishing to believe in his holy relic and at my depriving it of all its interest. What I had already seen made me very cautious as to his next wonder, viz. the hairs in the stomach of a cuckoo, which are very probably nothing else than long tufts of the tunica villosa. Since some one too has cast a suspicion over moon-stones as coming from some other quarter than their name would imply, he sets no longer any value upon them, though formerly he used to kiss and hug them to himself.

As to the arrangement of animals, he would read it off the diagram as if it was a mathematical verity that must stand just as he had disposed it. Not a word was said as to its justification. Not a hint given as to any other classification being possible, or even as to a bettering of the one before us. He speaks always of white-blooded animals, although Cuvier had already three years ago divided the worms into red, blue and white blooded ; in short, I have not heard a single intelligent word from him except the ready made ones which he hands round on preparation glasses and card boxes. There is living here too, such a zoologist, one Gravenhorst,

a young man from Brunswick, and a *privat-docent*, who is, however, the same kind of thoughtless register. In God's name, what kind of zoologists will such people make, what kind of tendency will they introduce among the naturalists of Germany ! when their highest instinct consists only in sweeping together and picking up all sorts of strange things. If people of this description, said Osiander, who is a shrewd Swabian, can only say, "I have got a series of embryos ranging from one week to another, well they are all mighty pleased at that, but as to seeing anything in the embryos themselves, they are not in a condition to do so." Give me Himly, however, for he is a very different kind of man, and it is enough to know him by name only without the addition of any other title. I will not contrast him with Würzburg. Industry does not admit of being caricatured ; he must be taken as he is, and then he stands quite a hero in his special department. I visit the hospital daily, and feel an interest such as I never had before in the healing art (*kuriren*), so that like Wolf in Halle I may look upon myself as a downright courier (*couriren*), until I have found some abiding place in *Heaven*. I am constantly consulting some of the big wigs of this place, *i.e.* the library, or else I should come to be nobody. I shall this term become a grub in order to burst my case and become a bullfinch, for what was not a worm can never become a bird. My board expenses with Messrs. Paul and Schmitz, by whom I am commissioned to send you many compliments and respects, are very reasonable, amounting to about six florins per month, including the bringing up of the food into my room. Every one here dines in his chambers, and so you are all day left alone, and for sheer *ennui* must be doing or learning something. Meanwhile I am tolerably well satisfied with my surroundings; the town being bright, with broad and clean streets, though here and there one sees some old tenement that threatens to tumble down. I have not seen anything as yet of the country round about.

I have already written you something about Jena from Halle and hope you got this letter. What your "friends" are doing there, I know not ; for what kind of name, as fitting, shall we give those who when they see me cudgelled in front of their windows, do not rush out to strike a blow but only shake their heads at the thick clubs. Please do not show this letter to your good wife,

so that she may not clap it in front of my misty eyes. I found the people very well intentioned, true, and pretty faithful ; but is he to be called a friend who does not come forward full of love and power to avenge the griefs of a friend if so be he can ? Apart from Steffens, I have met with no friend of yours, unless God, in obedience to the law that " Nothing is the only one of its kind," may have created me to that effect. All this may seem to you very sportive, and you may well laugh at it, but I have invariably found upon due consideration that it is better to have no friend at all than too many.

As to Jena it is dead : there it lies, minus its head, and riddled like a sieve ; and yet the fools create many circumstances that must be taken into account by one who would become a private teacher. The good Kastner, who has no doubt for three years caused many a quarrel in Jena, has been villainously persecuted, and obliged, as I learnt later on, to find bail for some years to come. Such blind creatures are human beings !

You ask me in your letters whether I have come to any resolutions as yet, and I may answer, not entirely. Much as I was pleased with Jena, I should not like to be a *privat-docent* there, just because there are no real students and no library such as I require for working in to any advantage. I am resolved, therefore, to stay here as long as I can, and roll myself up like a marmot, although by so doing the persistent character of my working powers may be seriously impaired. So here I am ; and if my essay upon "Generation" is not to sink into thorough obscurity, I will quickly endeavour to make friends for myself in Heidelberg, as it is, properly speaking, my fatherland; my father being himself a Baden citizen ; and should it admit of being done, will obtain permission to lecture there. I believe that in Heidelberg I shall come least in collision with any one, for this it is which always deters me from seeking permission in any other place, such as Halle, Jena, or here at Göttingen. I don't wish to live in a state of hostility, especially when it comes to be a miserable squabble about getting one's bread. What do you think of my plans ? I should like to have your approval and your reasons for making a start, and how my projects are to be carried out. If you have time to think of me, I may safely expect an answer.

FROM THE SAME.

Göttingen, July 9th, 1805.

The very intelligent Bouterwek has given me a very pleasant hour with him lately. I honoured him with a college visit, and heard him lecture by a kind of occult instinct to eight pupils upon the subject of the "Senses." He said, there might be an infinite number of senses, seeing that they were all modifications of the perceptive faculty ; but only those who had one too many could say there were more than five. This is all I learnt of him : the remainder of the lecture was a mere paraphrase of words, though in using such he thought he had been giving a definition.

It is a pity for the credit of the Göttingen dictators that their claws have not been clipped ; as in that case the tag-rag and bob-tail at every university might manage the writing by dictation. The pleasantest thing that befalls me in such a college is the sleep, to which the creaking of the students pens forms a kind of rough music, which, God knows, I would gladly dispense with.

I live here just as I did two months ago, except that I am just now bent upon making great discoveries, but unfortunately cannot master them, and have therefore determined upon offering a prize to whosoever will help me to find such treasures. I stand here on very good terms with Himly, which improve daily, but I go very seldom to his house, as he seems to be of a rather retiring nature. As to Blumenbach, since I gave him a copy of my book, I have seen nothing more of him. It is only the letter of introduction to him which you wrote alas ! so kindly for me, and then that piece of Otaheite cloth ! which suggest to me any penitent recollections. Will you believe it when I tell you that B—— is the worst professor I have ever heard in my life, which is saying much.

What I discovered is as follows. In the pig's embryo the intestinal canal runs through the umbilical cord in the form of two filaments, which corresponds to the small and large intestine, to a special sac in the membranes of the ovum. All anatomists have hitherto regarded these filaments as mesenteric veins, but this is a thoroughly false opinion. So also the renal glands and liver are the only organs in the abdominal cavity, though these have been taken by anatomists for intestines. This serves my turn very well,

just as Ugolino's head did his bishop. I said to myself, timidly, "the organs of the digestive system must in the embryo lie of necessity outside its body, like the respiratory organs," but at present I must not presume too much upon this statement until I have found matters the same in the human embryo. I know not how I am to get at the secret, as I can nowhere hit upon an embryo ; and in the cabinets, where they are preserved by the dozens, sections cannot be made of their pretty little bodies, whose only comfort seems to consist in lying encased within their shells. If any one would but anatomize me an embryo and then send me a drawing containing what I have found in pigs, I would give him a louis d'or upon the spot ; but what avail all my wishes ! If you would tell this little tale to Professor Döllinger, I know it would interest him. If either you or Döllinger know of any means by which I might come to a clear understanding upon this point, you would confer upon me an infinite obligation, and benefit science as well by bringing the matter under my very eyes. It is with me as with a lover, who believes every week that he has lost the affections of his loved one, through having had no news of her for some days ; and so I would but beg a trifle of you which will easily set my mind at rest. Would you tell the Frau Professorin in my name to remind you every evening that there is some one in Göttingen who is eagerly expecting something from you ; who finds it necessary for carrying out his future work upon the nourishment of the foetus that he should have your opinion upon it first of all as to what statements are to be rendered most prominent, what to be abandoned, and how the language is to be modified, or, as I feel myself, rendered more smooth and even.

Greetings to your wife, Döllinger, Köhler, and Fuchs.

FROM THE SAME.

Göttingen, September 8th, 1805.

I intend this letter to be a long one, as I have a mind to give you plenty of small talk. In the course of my life, no one else's dealings have corresponded so exactly with my own plans as yours. With me the 18th Brumaire has been a-stir, and the whole of the ancient government has been overturned. I have, in a word,

become here a *privat-docent*, which came about as follows. [Whereupon Oken records *how the difficulties which stood in his way had been overcome, especially those connected with his proposal of giving a lecture upon Physiophilosophy in the Medical Faculty.*]

The war that has again broken out causes me much sorrow. I know not the precise footing upon which matters stand, but, from what I hear, things could not have turned out otherwise ; my fatherland is again the first theatre of war, and I am completely severed from my home ; but stay here I absolutely must, as you yourself advise me. If even H—— can do nothing for me on account of this sad war, still all would be gain to me if I could only lecture for a half year in this place. I will take every possible pains to make some of the truths of physiology interesting by my new way of setting them before my hearers ; and since Himly can very much influence by his recommendation the medical men here, I have some hope of achieving success. I have with feelings of gratitude fully understood your kind offer, and will make no frivolous use of it. If Göbhardt [the publisher of Oken and Kieser's "*Beiträgen*"] pays me sooner than Michaelis for the plates, that are to be engraved here, it will be a considerable help, as the latter have already picked a hole in my economies.

Gall was here for fourteen days. I have heard him lecture, and, all things considered, have found him really interesting ; not as if his mapping out of the head into organs contained anything true, but because he entertains some very plausible views about the brain and nervous system, especially as regards their anatomy. He is certainly no disciple of any physiophilosophical school, but this is not to be expected of such a man, who, if he only sets the stones in order for us, may well leave what is useful to work itself out. The main reason why he here and there expressed himself unfavourably about physiophilosophy is to be ascribed to Steffens, Hegel, and Schelver, so that we must not take it ill of him. Who would abide by a friend who the other day got up after me into the reading-desk to contradict me ? It might, he said, be mere talk or something true, but Steffens had taken it ill of him for comparing man with the animals, because he had demonstrated the same organs and attributes to exist in both. The dignity of man was by this means debased, etc. ; in short, let

that be as it may, Gall could not be very pleased, and I therefore excuse him readily for having been put out of temper with Steffens. In Halle, too, all the professors, except Hegel and Schelver, have heard him, and this, of course, pleased him mightily. You will find, however, if he comes to Würzburg, that he is a thorough empiric, and a downright, though often rather coarse, Suabian. He has in particular an extensive acquaintance with natural history, in so far as it has to do with the game-keeper, bird-dealer, and poultry-yard—and even Blumenbach has learnt much from him. Many a proof he drags in neck and crop ; but who is there that does not beat up every sort of game if he wants to get a good shot at it ! It is easy to see that he covets money ; but I readily excuse him for this, as it is a virtue which no one has who keeps it secret.

At present we have some three thousand Frenchmen quartered round about ; but Bernadotte has given us the assurance that in eight days they will be there no longer, and that even the state of tension said to exist between them and the Hessians is false. They withdraw positively out of Hanoverian territory, probably to the Rhine, but whether all of them I know not. The report, too, is afloat that Prussian troops are already on the march to Hanover.

FROM THE SAME

Göttingen, October 24th, 1805.

I must again make you acquainted with an official account of my "advances." They are not indeed so brilliant as those which were despatched by Berthier to a certain B—— in Hanover to the effect that "L'Armée autrichienne a existé" ! but still my plans, manœuvres, and prospects would lead one to expect such a piece of Napoleonic luck, or, without going quite so far, to hope for it. I do not know whether or no I have written to tell you that on the 12th of July my drawings (illustrative of my work upon the "Development of the Intestinal Canal") were handed over by Villers (whom you here made an honorary doctor of whilst he was away ; I have never myself spoken to him, for everything passed through stranger hands) to Bernadotte, by him to Grégoire in Paris, so on to Cuvier, and at last reached the National Institute ; but as to this last

point I know nothing beyond their having been addressed there ; and further news I have not as yet got. Finally, I presented these drawings to a meeting held on the 12th of this month, reference to which is already made in the *Gelehrten Anzeigen*, but as to when they will be inserted in that paper I know not. Tuchsen gave a lecture, Osiander exhibited some injections of the nerves, and, lastly, Stromeyer some arsenicated hydrogen. All these articles will be of course inserted before mine, so that two or three weeks may elapse—but still a beginning has been made. In my lectures upon Biology I have really worked out something—some of the sheets are already printed ; but things go on so slowly that it will never come out before the beginning of the lectures, and so will be delayed, like the Russians.

Blumenbach gave me Steffen's lectures against Gall. He praises them as he does everything, though it may be the most wretched trash ; but I must confess, if even Steffens himself was to hear me, that he does not please me in any way, and that one had better really have nothing to do with him. I rather fear that he will give arms into our enemies' hands, so that they may run a tilt against the "Philosophy of Nature." One sees that he has deliberately and not from impulse attacked Gall.

Kieser is here, and will remain some weeks. We anatomized a seal along with Blumenbach, the first that has been sent him this summer. Kieser pleases me very much, knows a great deal, is very studious, and has a true and bright idea about everything ; but is too young in all he does. I have read nothing but the preface to Troxler's recent work, and found it indiscreet and well nigh extravagant. How comic it appears when a young man deals with a Marcus, a Röschlaub, etc., as so many ill-bred fellows, and finds it below his dignity to storm their "barracks." One will soon be obliged to announce to the world at large that one does not belong to any such clique. It is for these reasons that several here, especially Wrisberg and Heyne, look askance at me.

Stokar, Wildowski and Schlosser of Frankfurt, whom you knew at Jena, have formed here a special club, and try to spread a report in the town that I may have seen *one* umbilical rupture, although they know nothing about the matter ; and I, meanwhile, have offended nobody. I once, according to the rules that prevail here

of strict etiquette, gave an evening entertainment to Stokar ; but this was the first and last time I ever saw him.

In case of you giving me an answer soon, as I hope, pray send me some scraps of news about the war ; for here I am as if out of the world. Ittner is here. Greetings to the Frau. Professorin.

FROM THE SAME.

Göttingen, November 18th, 1805.

I cannot hold out much longer, and have let matters reach their utmost limit before deciding upon turning to you with a request. And to whom could I really do this with more confidence than to yourself ? Hitherto I have always managed to struggle on by means of some assistance from home ; but since the war has broken out, I have obtained no further help, and nothing now remains for me to do but to return home. At present, however, I stand upon the very verge of maintaining myself, and having struggled towards this with so much resignation and effort, am I now doomed I would ask to abandon the goal, which lies clean before me, provided I can only manage to remain here some time longer ? Besides, I am bound to this place ; and having got to give lectures—what a disgrace, to be obliged to go away in the middle of the year. A publisher was always my consolation in monetary difficulties. I continued hoping from week to week, but Göbhard won't honour my draft, and until I have another, things must go on as they can until Shrove Tuesday.

Among the students here I manage to preserve a tolerable amount of confidence. I have in private college eleven pupils, which is a very goodly number for Göttingen, where there are only fifty medicals. Osiander has only twelve, Richter sixteen, and Himly only twenty-four in the hospital. Just imagine what a small number of medical students, and you must see that one has but a poor chance of making one's fortune. One great advantage, however, is that I am known here, and, Göttingen having got a good reputation abroad, I am really very glad at having made my start in life here, for doing which I have to thank you in following your good advice. Beyond, however, the fact of one's becoming

known here and the advantages of its library, Göttingen has nothing more to give. In public I have a great audience, but as they only come out of curiosity and get nothing for it, it is easy to see that they will soon disappear. On all occasions the most lively Protestant feeling prevails here—which all amounts to observing economy in the kitchen : no one will meddle with anything which he cannot put into his mouth—such is the case both in the upper and lower grades of society ; and no student has any higher notion of science. Meanwhile my eleven seem to be contented with me ; but I stroke them, so to speak, under the chin, and avoid as much as possible all reasoning, for if I were to attempt to do this, their mouths would stand agape. I must only dictate to them like every Göttingen professor, or the students would do nothing. If you don't keep a tight hand over the college they learn nothing. Among my eleven I have got five gratis-pupils, and the rest wait for remittances ; meanwhile the victualler must always be paid beforehand and other tradesmen also. Engraving my copper-plates has also cost me no trifle ; in short, for some weeks I have been without any money. Could you give me an advance upon my signature and word of honour to repay you as soon as lies in my power ? I shall feel myself everlastingly obliged. If the sum were to amount to only fifty florins that would be something towards helping me. If you can but comply with my request don't leave me long in uncertainty ; the best plan will be to send the money by the postal waggon.

[From the few following lines from Oken, dated Göttingen, December 20th, 1805, we find that Schelling had responded to this appeal.]

I know not how to thank you : for words fail me as you will readily understand. Still it is my hope that a humble individual like myself may frequently recompense a benefactor by some very slight token of feeling, and such as it is this must at present serve in place of thanks.

Yours gratefully,
OKEN.

FROM THE SAME.

Göttingen, January 5th, 1806.

As regards a paper for your "Jährbucher der Medicin als Wissenschaft," I must confess that I have done nothing as yet towards this, for the simple reason that I believe you would accept anything I sent from a feeling of kindness towards me ; but as I wish to write only what is worthy of your journal, I cannot consent to this, for one is naturally disposed to overlook many deficiencies in a friend and accept of him what one would return as unfit to any one else. I have determined, however, to write something upon *materia medica*, if so be it is anything new ; and when you have read it you can form an impartial judgment, whether it can or cannot be accepted.

I am now a citizen of Baden, as was my wish, and will now notify myself as a subject, only I do not know how to set about this properly so as to avoid committing any blunder. Three days ago the report reached here that Steffens was declared bankrupt—a pretty piece of news this ! The students here have for eight days been squabbling with the University. To-morrow they intend marching out of the town. All lecturing has ceased. I will send my sketch of a System of Biology to you and Döllinger.

FROM THE SAME.

Göttingen, January 6th, 1806.

You have now got a copy of my "Abriss des Systems der Biologie," and please accept it as a childish offering of thanks. I cannot write much to you at present, for everything here is in a state of confusion. The students have left in a body, and are now camped out in Münden, near Cassel. On Sunday, about half-past eight, they went in rank and file through the town with cockades on their hats and baggage-waggons, etc. The colleges now stand empty. Some of the professors, wishing to check the movement, lectured to only two or three auditors, where previously they had had from thirty to seventy. The squabble took place in Ulrich's public-house, where the students and citizens took to cudgelling

each other ; the beadles and police came up, but, instead of defending the students, left them to be well knocked about. The judicial complaint now raised is that the students would have the beadles and gamekeepers quickly punished, and this has been promised them after proper investigation of the case. The students, however, remained where they were over the Sunday ; no decision was made, as in addition to their ill-treatment by the citizens, they found fault with beadledom of every kind, bad policemen, and every article of their livelihood. No one knows whether they will return. Yet it is still said that the negotiations with them have not been broken off. In four days they will part company if they are not fetched back. They pledged themselves by word of honour never to return to Göttingen. It was sad to see so many young men march out during the worst of weather, in the midst of snow, wind and rain. Many without any overcoats, merely in uniform, while many had swords and flint-locks.

I am grieved very much at their departure. I can give no more lectures except it be to a few pupils gratis, and this I will not do, for the firewood and candles would cost me far too much. Kind regards to the Frau. Professorin.

FROM THE SAME.

Göttingen, February 1st, 1806.

An unexpected stroke has indeed befallen you in the fact of Würzburg and Salzburg shaking hands with each other. [Oken here alludes to the circumstance of the Elector of Salzburg, the Grand Duke Ferdinand of Tuscany, having obtained, by the peace of Pressburg, the bishopric of Würzburg under the title of the Electorate.] I should, had I dreamt of such an incident, have regarded it as something very strange. Meanwhile, this stupid peace vexes me more than anything else—for what, pray, is to come of it? I had thought that Germany had been once for all burnt up and again rebuilt ; but there stand the Jack-pudding barracks just as they did before. What has Bavaria really got but its name? and this it might have kept without having a king. What has the master innkeeper (Wirth) on the hill (Berg) (Württemberg) got through

his awkward and rash conduct ; and what, too, my beloved Baden ? I had already pictured to my mind Swabian and Swiss kings, Grecian Kaisers, and Chinese Napoleons—but now we all stick in the same boot—in short, the war has been like nothing heard of before and with what miserable results ! The Germans are now worse off than ever, for they have got a lot of feeble, proud, petty kings instead of sturdy and discreet electors ; and now I cannot send any more letters pre-paid to the post ! O you wretch of a Napoleon ! As for yourself, the position is literally odious, unless you would prefer spending your salary in peace and quiet. For, what is to become of Augsburg ? An old trading town with the mercantile perversity of character—that is not the place for you ; go to Rome, let the pension be told off, and live for Art alone—something may come of this ; but what could you do in Augsburg where only tradespeople live upon cutting each others throats ? The houses are dark and gloomy, the snails inside them have neither ears nor eyes, and only stretch out their long feelers, which are quite incapable of feeling a word that is said to them. And now to return to myself.

I have made a stride here. Hugo interests himself more for me than Himly, and he has set me up with Heyne by having shown him, I believe, the vesicula umbilicalis all tricked out, so to speak, in rainbow-colours ; in short, be that as it may, Heyne has since seen in me a kind of prodigy : and has begged me to make known my “Zeugung” or book upon Generation in the *Anzeigen*, which has been done. You must not be surprised at my so *advertising* it, for such is the plan here, and as every one must do this for himself, the whole job becomes very flat and wearisome. In addition to all this, I have become a contributor to the *Zeitung*, but have made nothing out of this as yet. Unfortunately I can only nibble at Natural History, for the more lucrative craft of Medicine does not suit me—so I will try to come to words about it. It would be a capital thing if you could hear me piping to a different tune now and then from this place ; but what would come of it, when there are so many other instruments making a noise, beyond an increased discord of sounds, or a downright *tintinnarre*.

I am so well acquainted with Schreiber in Heidelberg that I really stand on no ceremony with him. I can say to him just as

I think and please, although I have never written to him or even conversed with him upon any special topic. In the autumnal holidays, however, which I have spent yearly in Baden at Professor Maier's, Schreiber was every evening with us. I have already written to Werk, professor of ethics (Freiburg), and he will doubtless take counsel with Schreiber, and I shall soon have an answer telling me how to begin. Meanwhile I will also write to Schreiber—and must thank you for having reminded me of doing so.

Now that Freiburg belongs to Baden I could wield many a pen, but do not wish to fret my old friends, who know my position as well as I do myself, with not having once made me a proposal. There they sit and wish me in a good-hearted way a paradise and a third heaven, but do not take note that I have not got wings which of their own power might carry me thither. They would readily enough gaze at this heavenly pilgrimage if only they had not got the trouble of giving me a shove at starting. It has occurred to none of my friends of the old sort to write me word that now would be the favourable time; but now I will conquer everything and give them such a hearty nudge that they must soon take note, as to how lazily their wishes must have hitherto been left to slumber in their bosoms. Still I do not know whether Baden has time to think of the university—and it would be a mistake to knock at the door at the wrong time—so I must wait and hear what Werk and Schreiber tell me.

You have now got something for your journal upon the *materia medica*, which I worked out while the students were at Münden. If they had only remained away I should have been able to have done some work for myself. On the 12th they marched into Göttingen again, and a short time before came one hundred and fifty Prussians from Heiligenstadt, who were in requisition, each man getting daily his one and a half florin. The students begged for a commission from Hanover—it is here—three citizens have been banished for several months from Göttingen; some are locked up, and one student has fourteen days' imprisonment for having drawn his sword. Duels occur daily with the Russians, who did not leave with the other students because they wanted to cajole Meiners, the Russian Commissary.

FROM THE SAME.

Göttingen, March 8th, 1806.

As regards Heidelberg and what is to be done there everything has been arranged. Werk and Schreiber have advised me to notify myself at once to the Elector as a native of Baden, and this I have done, expressing at the same time my delight at having become one of his subjects. Besides, I have long recognized Baden as my fatherland, and as having laid the foundation for my study of nature. It is true I have gone into a foreign country wishing to devote myself to an academical life, and having found that my small native country opened up to me no prospects of this kind; but it will ever be to me a most agreeable duty to return again to the land of my birth, in case the latter regards me as worthy of holding any office there.

Schreiber has written to Ofer—but no answer as yet. Herr P—— has sent my book upon "Generation" with drawings of embryos to Professor Heyse, in Heidelberg, who is the intimate friend of Reizenstein, so that he may recommend it to him. I could not have done this myself; but now God or the devil has led Reizenstein to Paris—so you see I am always too soon or too late. More has not been done and I do not know what may come to pass.

Schreiber has proposed to me to dedicate my writings upon embryos to the Elector, but would not this be very like my dedicating an edition of "Spinoza" to the Elector palatine?

I have just got permission from the Faculty to put my name down again in the Lecture catalogue. I have only petitioned for this; but have, as I am posted up, promised to pay the taxes. In doing this I obtain a very great advantage: if I get so many auditors as to enable me to pay conveniently, why then I lecture; if not, I am not disgraced, as it is known that I have made no dispute about matters and so cannot lecture. I have put down *materia medica* as an item in the catalogue, but do not intend lecturing upon it. I get no news of you. I know that Hufeland and Hardleben are gone, and hear also that Köhler and Fuchs are about to do so, as also Vanhoven, and that Heilmann is dead. These are all the scraps I have got to send. I cannot understand why all of them do not remain where they were, seeing that the new govern-

ment must retain and keep them all in salary ; and really living, I do assure you, is a thousand times better under an Austrian government, with all its press restrictions, than under any other. One must not, however, put an air-bladder too near a flame or inflate it too tightly, or else all the inside gas will escape. Kind regards to your wife.

TO FRAU SCHELLING.

Göttingen, June 1st, 1806.

Schelling has probably set out on his travels, so I must tell you how I live, or rather vegetate. Just imagine ; one day goes by just like another, and I have not even a Sunday to myself, like any common tradesman. I sit here, however, very contentedly by myself, just as if I was in heaven, and take a look occasionally at the outline drawings of the holy St. Genoveva—copied by Riepenhausen from Tieck. Most plates of this description touch me exceedingly, especially as I am at heart so childishly Catholic, and daily become more and more so through outward influences, the more I dabble about or get immersed in the insipid waters of Protestantism.

I have also a journey in contemplation, one which you will scarcely credit me with having courage enough to undertake, namely, across the sea. Not further, certainly, than Heligoland, but then what innocence is safe from the pirates, especially if it lets itself be so readily caught ! It would be a fine thing if some Englishman would take me with him to London and set me up there in the British Museum as an object to be looked at. For, caught in this way, I should become the catcher (*Ich wäre so gekapert der Kaper*), though I do not belong to the category of those whom our Saviour instructed to be fishers of men. I have now got rid of *one* matter. The other concerns Carlsruhe, and is easily dismissed, for there I am neither captive nor captor. After I had notified myself as a subject, they asked me whether I wanted to be appointed to the university or to some post in the country ; and I very courteously declared my preference for the former, but since then they have paid me no compliment in return. Just because they are always dropping a curtsey like the Marionetten-

bajazzo before the holy Stephanie Beauharnais at Paris. They will soon be getting tired of all this, so I will wait till they are so. Fare thee well, and may you soon be in Munich.

OKEN TO SCHELLING.

Göttingen, June 1st, 1806.

If I am not mistaken, you already know that I have notified myself to the Elector as a new subject, and expressed my wish of getting some appointment in the fatherland ; whereupon I got an answer from the General Sanitäts-Commission to the effect that I must make declaration as to whether I wanted an appointment to the university or one in the country as a medical practitioner. I replied in favour of the first, and stated definitely my objects, viz. Natural History and Comparative Physiology, etc. Since then I have had no answer, which does not, however, matter, as all is quiet at present, and even the Heidelbergers have got no answers from Carlsruhe. So, patience !

I know not if our contributions are ready—yet hope so. Göbhardt will send you a copy, about which you must not trouble yourself—as, let me only get settled, and I shall sing to a different tune. Read only the preface, as I have there, with some fear and hesitation, pointed out what is to be done or has been done with the subject. The statement that all that Physiologists have hitherto taught, may turn out utterly false, will cause many to be indignant, and if Blumenbach is amongst them, I shall be thoroughly pleased. I cannot tell you how it is, but I have such a deep-rooted hatred to this man, that even a look at him is enough to make me bilious !

Kieser is resident physician in Nordheim—though at present he is in Hamburg. Troxler did practice in Lucerne, but got into trouble with a medical director, wrote in his own defence against him and the whole college—but was obliged to clear out. If Göbhardt sends me the honorarium soon, I will get away from here to the North Sea in order to study marine mollusca—and ought to get a good haul.

LORENZ OKEN.

FROM THE SAME.

Wangerooge, December 27th, 1806.

Your letter has brought me to reflect upon many things which I should not otherwise have done. I cannot depict the state of mind into which it has thrown me. Your words fell like a ray of light upon my soul by convincing me of the necessity, reasonableness, wisdom and manliness of such a course of action, and I thank you much for them. Your insertion of my treatise upon *materia medica* gives me more ground for acknowledgment than I can fairly lay claim to. Whatever alterations you may have made so much the better, for I must say I found the essay meagre, or to speak the truth, I felt the needs imposed upon me of making it brief, not on your account, but according to my own notions of any work of mine that is intended for myself. I am deficient, not in self-confidence, but in trust of the world, and this makes me shy and awkward in society as well as in literature. Your essay upon Fichte I have not yet seen, having been away from Göttingen. It will no doubt be read, but believe me, there is in Göttingen no general taste for literature. No one cares to learn what any one thinks of this or that book. The students know absolutely nothing about such things ; of what is buzzed abroad about your essay they know nothing, and the professors take care to talk to them about something else. So when I return to Göttingen, I know beforehand, that I shall never hear anything about it. As to the library, no one bothers himself about it, and this has got to such a pitch, that after six months the most interesting work, when it has already lost most of its interest, may stand a chance of being read. And now as regards myself. I have at last made my long projected journey to the North Sea and sit down here, which is truly a blessing for me, in the most absolute state of repose, while the Continent is being convulsed. Add to this that I live half again as cheaply here as in Göttingen, whither I shall have shortly to return. I live here with Vogt. Amann, who does everything he can to promote my objects in natural history, and I find the place very favourable for such pursuits, having already learnt many things about which I and others knew nothing before.

Pray take a look at a sheep's skull, and you will find that it consists of expanded vertebrae, and so also does the human cranium. I have nearly completed my labours on the interpretation of the osseous system.

FROM THE SAME.

Wangerooge, April 2nd, 1807.

I am still here, having found that in so short a time as I had proposed to myself nothing whatever could be done. But soon after this date I go back to Göttingen, and shall be there in any case by the beginning of May. I had intended to have travelled by Hamburg, but as the Elbe has been recently blockaded I run the risk of being captured by the English, seeing that I should go out of one hostile land into another—so shall probably take my route *via* Bremen. The first part of the “contributions” is already finished but do you think that the publisher has sent a copy to Göttingen? for this I sincerely wish, as I have dedicated it to the society there and should like to turn it to some account with my own government, which has, however, played me a miserable trick. You know that Schelver wandered to Heidelberg this winter and became professor there. Just imagine this! The post that would just have suited me is now occupied—and by a man who, with all his agreeable oddities is still only an eccentric. How does this chime in besides with the hatred of the Carlsruhers for philosophy, which has been chiefly taken upon trust by Schelver? Do you not see how Görres has crept to Heidelberg? They will soon be making a professor of him. In all this the government, while taking in the fools that offer themselves, is forgetting its own countrymen and letting them rather starve than give itself the trouble to listen to the conscientious dictates of duty.

FROM THE SAME.

Jena, November 3rd, 1807.

Here you have the beginning of my long projected “Interpretation of the Bones.”

I am just at present in rather good humour with Landshut, as

there are miserably few students here, and scarcely any medical men; so that my lecturing and eating are reduced to rather a narrow compass. I am more concerned about myself here than I was in Göttingen, as with smaller receipts I have to make greater outlay as a professor. I began at first to lecture to nine, not being able to get my papers from Göttingen, and this will injure me terribly, as the students meanwhile have had recourse to many other colleges. As far as one can see I may yet be able to reckon upon pupils, but if I have got to run after them, it will be but a poor look out! In other respects I am not badly off here. I am treated in a very friendly way, and I have not seen any wry faces cast at me. I have been in Freiburg, where some organization is going on which will lead to good results. But there is no place for me there. The university has got permission to purchase estates to the value of 300,000 florins on credit.

I have not seen Kielmeyer. I stayed three days with Eschenmayer, who is a kind, friendly, and cheerful-hearted man. You must keep on good terms with him. He has not written a word intentionally against you, but thinks that things have not turned out well with him in the *Fahrbücher* (as regards his paper upon the "Senses"). I know not, however, what in all this he may have to lay to his own account.

I owe it to Eichstädt that I have come here; for he has brought it about. I stand on good terms with him and visit him occasionally, but do not feel properly at home with him.

Goethe has condescended to send me an invitation, but I feel somewhat uneasy about it. I cannot avoid feeling out of place with such persons, and so everything goes wrong.

I saw Fried. Schlegel in Cologne. He is a very different man to what I expected. Grave in manner, frugal in habit, liberal and friendly. I have taken quite a fancy to him, and cannot help respecting him. I have not yet seen your lecture upon Art. I should long ago have contributed something else to the *Fahrbücher*, but upon my word, do not know what to send, and this seems about the best hint that I can give myself for leaving things alone. I have projects enough, but they are all more physiological than therapeutic or nosological, and as such unfit for the *Fahrbücher*. My greetings to your wife, or how shall I call her, Hofräthin (?).

Eichstädt has received a letter in which you praise me pretty smartly. In Jena they seem to expect something of me. That, however, is my tribulation. I think the students, poor fellows, who for want of money can attend no respectable class, will soon have changed the opinions of the professors by their non-attendance. In that case I will go back again to Göttingen.

OKEN TO ECKER.

Jena, April 13th, 1808.

I had already two years ago made an extract from your Programme upon the History of Freiburg, and sent the same to be printed at Jena. It got lost, however, during the scuffle with the French, and along with it the copy you had sent me. Another copy which I possessed is in Göttingen. I there begged Professor Beneke the librarian and editor of the *Götting. Gelehrte Anzeigen*, to make an extract from it, which he did, but old Heyne found it too short, and would not admit it into the journal. Now if the paper in question had been made up of Greek etymological grubblings, he would have done this fast enough, as being a student's specimen after its kind. I like Heyne well enough and he too likes me, and so I would fain leave him to his philosophical loves ; but it does vex me to see how the philologists have got the upper hand of the literary institutions, and how such folk believe that there is nothing steady going and prosperous apart from their verbal erudition. How is it that you have not sent me your last term of lectures ? In like manner I do not know why you do not imitate other universities in printing the graduations, as this could be done gratuitously ; and one would have some proofs in this of the university's activity. The same holds good of the botanical garden, library and physical museum, which are already publicly announced by every other university. Why, then, imagine that this is all so much chatter and fuss, when the fact is, nobody looks upon it as such, and meanwhile daily information may be read in print about other universities and even gymnasia. There must be some political reason, too, for not announcing the large purchase of estates by the university, as this would be but a suitable acknow-

ledgment to the Grand Duke for what he has had to do in such matters. I would have long ago mentioned all this to you, had I not feared that the university might have some reasons for its silence. Whoever holds his tongue, must, however, be looked upon in the end as good for nothing in this world, and so go to ruin ; but whoever is known, has the voice of the public with him, and then it is not so easy for any prince to cancel or annul the title deeds of an institution.

Dumeril writes me word from Paris that he has been very busy with similar investigations to my own upon the metamorphosis of the vertebræ in the cranium and their homologies with those of the trunk. He has certainly the advantage of having more specimens of animals at *his* disposal than I have, and so can verify his conclusions from many different points of view. This repetition of the bones of the trunk leads to the most important physiological elucidations ; for, as of the bones, so also we have a repetition of the muscles, vessels, nerves and even whole organs, and so by this means we are enabled to co-ordinate the physiological theories of these corresponding parts with strict regard to homological relations. Vicq. d'Azyr has already compared the muscles of the upper and lower extremities with each other ; but the muscles of the jaws may be contrasted with those of the fore-limbs and analogous functions be deduced in regard to them and other adjacent parts. An entirely new field is in this way opened up to physiologists. If you only knew how far I have got in my physiological investigations, you would be astonished to find how different everything is to what one imagines it, and how all systems, even the most individual parts, such as the coats of an artery, stand in a physiological connection with all the rest. In a word, how the whole organism lies there antetyped or prefigured so to speak.

When I have lectured two or three times upon physiology; I think I shall stand clear with my system as regards its leading features, and will then probably go to press with it. I will then, in the next place, lecture on pathological physiology, or speaking generally, upon what pathology, taken in the strictest sense of the word, ought to be, for it is only by combining this department with my own views, and bringing it into shape by oral delivery, that I shall be able to complete the physiology. When this is done,

I will then proceed to give lectures upon comparative physiology, and finally upon comparative zoology and comparative botany, especially as regards the system of families and the physiology of plants, for which I have collected abundant material, and then, having closed my physiological circuit, I will proceed to the working out of details. A great work this, and a long road to follow ; but one must do something, and in physiology at present all remains to be done.

My friend Dr. Seebeck, a very active, skilful and thoughtful physicist, has just been repeating to me his experiments upon the metallic conversion of potash, and I have seen this new substance. In like manner, Göttling has demonstrated the same after Curandea's method in an iron tube. I do not regard it as a metal. It makes me feel quite envious to hear that you have got your curator (Ittner) back again, as I did not see him when amongst you. I beg you to give him and all his family my kind regards, and also to the Falkensteins when you see them. Finally, with kind regards to yourself and worthy wife, I must conclude, as my paper fails me.

Yours,
OKEN.

P.S.—Shortly will appear a smart review, written by myself, upon Systems of Physiology.

TIEDEMANN TO OKEN.

Landshut, July 21st, 1808.

Above all I must return you thanks, my dear old friend, for the essay you sent me upon the " Interpretation of the Cranial Bones." It has pleased me very much, though we may not agree upon every point.

I would have written to you two years ago, but was at that time very out of sorts and not at all disposed for writing. I came here from Paris, where I could work freely and with pleasure the whole day long in the excellent collections, and here I found literally nothing in the way of preparations which I could use in my lectures, and as to anything else, still less. I was accordingly obliged

unpleasantly enough, to discontinue my labours and let them lie by for some time, in order that I might make the necessary preparations for my lectures. For some time past I have been in possession of a cabinet for human anatomy, comparative anatomy, and pathological anatomy, the like of which will not be easy to find ; as the collection of preparations for comparative anatomy is especially important. I possess one hundred and thirty embryos, sixty of which are human.

At present, my good friend, I am beginning again the work which was interrupted two years ago. As a first fruit of all this I send you the first volume of my "Zoology," the immediate object of which is to combine comparative anatomy with zoology and so build up a system of the latter, as based upon the nature and organization of animals. After a few years, say ten years hence, this zoology will serve me in working out the physiology of animals, provided I keep sound and hearty.

Give me your critical opinion about this first volume, as to whether it fulfils the purpose for which it was written. You will find the greatest amount of what is new in the Metamorphosis of Man and the Mammalia. I have designedly introduced nothing of a physiological character, though here and there something of the kind may have crept in. You must give me your opinion in an open and unrestrained manner, as becomes men like ourselves who are striving after truth.

I am working just now at a physiological essay, upon the relation of the liver to the organs of respiration, and shall there show that the function of the liver does not consist merely in the excretion of bile for the process of chylification, but chiefly in the abstraction through the biliary secretion of the combustible elements from the blood, and that in this way its function resembles that of the lungs.

I now and then investigate embryos, as I intend writing an anatomy of them, and with this view must dissect all which I possess.

Some weeks ago I made observations upon the metamorphosis of frogs, and dissected a lot of them, in doing which I have hit upon the following conclusion : that the frogs during their changes pass through the organization of the Annelida, Mollusca Fishes, and then

become finally and for the first time Amphibia. What do you say to all this?

And now farewell, dear friend, and write me soon. If you have had such disagreeable business (though I doubt this) to go through as I have had two years ago, I would readily excuse you for not writing. P.S. Who is it who will review my "Zoology" in the Jena *Zeitung*. Have you no wish to do this? for I believe you are the only person who knows what my intentions are in that work.

OKEN TO SCHELLING.

Jena, September 3rd, 1808.

It is so long since I have written to you that I know not what excuse to make for myself. You cannot imagine what a wilderness of a subject Physiology is; there is hardly *one* word of truth to be found in it, so that I must work it all out quite afresh. It will create some surprise if some day I come out with my Physiology. Very few have any presentiment of my intentions; but I must labour hard to fulfil them. This summer I have finished the subject of the circulation and the correlation of all the organs of the body, the signification of the several parts of the eye and ear, and, lastly, the vegetable physiology, upon which I invariably take my stand like an ox upon a hill-top. Next winter I shall lecture upon pathological physiology, and to an entirely new class, to which I go like a condemned malefactor. Still I am encouraged by perceiving that the students take the matter up with a good heart, and acknowledge of themselves how much has got to be done in Physiology.

In other respects I am very comfortable in my surroundings, though I suffer somewhat from my sedentary habits. My circle of acquaintances consists of Fromann, Seebeck, Knebel and the privy-councillor Stark. I meet young Voigt in the Botanical Gardens, and at times Dr. Mejer. Yet I have no one, alas! with whom I can go about as a comrade; so that I go out walking very seldom, read up to five o'clock, and then, all my acquaintances are flown. I have, too, nobody with whom I can converse upon my own department; in short, there is no longer any scientific

intercourse here, as it may have been in your time. I eat my meals at home, and there is not a single social table to be met with. Meanwhile, I am not in the least discontented, still less melancholy, but in a way, that is to me incomprehensible, content, though not exceedingly cheerful, since I have come to feel that the Jena people are a chattering lot, and always ready to turn their backs upon you, especially if there is any question raised about marriage. Still I chime in with them somehow. I have not, as yet, got much of a salary from Weimar, only one hundred and fifty thalers. Gotha will not grant anything additional, and I do not make any requests, as Zigesar has offended me. I stand on very good terms with privy-councillor Voigt : he is kindly disposed towards me, and even if I was ungracious, he would raise my salary. Through him I have a free correspondence with Paris.

With Goethe I do not as yet stand upon a proper footing. It is comical to see how we study each other. We stand in a state of mutual suspense, both of us at a loss what to say or do, and neither of us making a step towards this. It is probable, however, that we may just see each other for a few weeks and then part company ; in which case he has lost nothing, and the same may be said of myself.

Can I not confer some favour upon you, or else play off some of my tricks ?

OKEN TO ELIAS VON SIEBOLD.

Jena, November 23rd, 1808.

I live here very pleasantly, stand on no bad footing with any one, and find the Government very favourably disposed towards me. It has granted me full power for making provision for my lectures on Comparative Anatomy, which I intend doing, and has also opened up for me free communications with Paris. It has given me money in trust to lay out as I please upon postage, purchase of specimens, and sundry dissections, which I mean to make upon animals, though as yet I have had no time for doing this. I have been much too busy with my lectures to think much about anatomy ; but hope in a few years to have more time at my disposal. I have made great advances in Physiology ; and you will

wonder, when all comes to be printed, how very differently matters stand to what is imagined. I have also got on with my Philosophy of Nature, especially with the Cosmogony and the characteristics of Plants and Animals—but the inorganic forces, such as Magnetism and Electricity, still give me plenty to do.

SCHELLING TO OKEN.

Munich, November 26th, 1808.

MY DEAR FRIEND,

Your letter has given me all the more pleasure, as it proves that you are kindly disposed towards me, and makes me acquainted, too, with your scientific labours and present modes of life. From all you write, I shall look forward with great interest to your "Physiology." There is only one thing which, as I take it to heart, I cannot, as a friend, conceal from you any longer. It is your manner, or style of expression, which injures you not only in the estimation of foolish, but here and there of intelligent, people. Ill-disposed persons make use of such expressions as "Nothing that dwells in the brain," which I have seen quoted in several journals, as an occasion to be improved upon by running a tilt against the whole book and its author as extravagant. Even Goethe will stumble over it ; I should be sorry, too, if you fell out with one another, as you would in this case be the loser. The value of any good thought can only be enhanced by being expressed in a simple manner. We have seen enough of such "squibs and crackers." The times are too serious to be making sport out of any subject. Besides, this crackling discharge of clever sentences, which owe their existence only to an awkward mode of expression, has the disadvantage of making the reader believe that he who sets them going does it with a view of astonishing him ; and yet his surprise soon ceases, for it is only what is simple that endures ; everything that is quaint or odd soon loses its value, and either gives place to the former, or else relapses into some other form of affectation. Ordinary people have certainly no advantage over us except by writing plainly and correctly ; we, however, cannot vex them more, than by not giving them any advantage over us in

what they consider to be the highest point of attainment. Whatever is correctly put before them in the simple style of truth brings them to desperation. There has been unfortunately, in Germany, too much playing with words ; and now we must be in earnest, and everything so far as possible must be done and said with some direct and definite object in view.

You have here a whole sermon from me, though I do not know how you will take it. Be that as it may, I thought it was due from me as a friend, to call your attention to your peculiar faults of character and mode of working.

I do not read the Salzburg *Zeitung*. The journal you allude to is no doubt what was formerly Hartenkeil's, but I can give you no information as to who is your reviewer. Your review of Walther has pleased me in many respects, in others not so. The style is here and there of too youthful and petulant a character ; and, besides, I cannot tolerate the partiality of many of your opinions, upon which you dilate too much. A physiological idea, which, when limited to a given circle of facts, may be a very fair discovery, is not on that account a philosophical idea which can be brought to bear without reservation upon the whole science of the universe. In all this I am speaking plainly to you, as is but mete from one friend to another. You ask me whether you can do anything for me that I should like or simply play off some of your tricks. My reply is the former, and trust that it may be done in *optima formā*. I have to go through a disagreeable suit before the academical tribunal of Jena, instituted against me by that ragamuffin G—.

[Schelling here gives Oken some instructions as to this suit, and then, in a letter dated Munich, December 24th, 1808, complains that he has lost the action and must procure a new advocate in Jena. Oken, meanwhile, to provide the needful.]

My best of friends ! For goodness' sake, be as quick as you can, do something, say something for me ! I will, at the first opportunity, do the same for you. [And then concludes with]—O miserable wretch that I am, who has got to write about such matters which are more distasteful to me than colocynth or any other nauseous drug. Farewell, and accept my thanks in advance for whatever trouble you may have to take upon my account.

FROM THE SAME.

Munich, January 4th, 1809.

Hearty thanks, my best and dearest of friends, for all that you have done for me. I know your friendship will never fail me, and hope soon to get a note from you.

I write this to thank you for the excellent review given in the Heidelberg *Jahrbücher*. What you say about the confused notions that prevail in respect to the Philosophy of Nature, appears to me written *con amore*. I beg you to proceed, for finally such writing must do its work, and no one can hit the whole matter off so cleverly as yourself.

Do not misunderstand any former expressions of mine as having originated through a hasty or superficial criticism of your works. I only wished to call your attention to your scientific mode of expression, for I have no fault to find with the intrinsic value of what you write. In the former there is to be detected a kind of presumption that tries to play with language as with so many gold pieces, and this implies a pinching poverty of thought; in short, you weigh out pure gold, but the mounting of this has often such a false shimmer and glimmer about it that, for the sake of the matter in hand, I could well wish that it was done away with. Adieu, my sincere friend.

OKEN TO SCHELLING.

Jena, January 25th, 1809.

Your first letter, touching my programme "On the Universe," pleased me, and the more by its coming too late, as I had already determined to adopt a thoroughly sober style of language, and have done so already in my Essay on "Light." I am surprised that you did not get this sooner, as it was posted last November along with my paper to Gehlen's journal apropos of Newton. Is there, then, so little intercourse between Leipzig and Munich?

In my Essay upon Light I have said some hard things against Newton, but I will not do so in the future. The Essay has given much satisfaction here, and to the Grand Duke especially, so that

he invited me to dine with him, and afterwards would have me remain talking to him on the subject till half-past eleven at night. A number of courtiers were present, also, but I felt not in the least uncomfortable. The Duke himself is a very well instructed and sensible man. He is acquainted with everything, and has even carried out further my views upon Light and applied them to the act of seeing, and to the doctrine of polarity as pervading the whole of Nature. I stand in very good favour with him. He has besides given orders to Vulpius the Librarian, to put everything in the library at my disposal, and oh ! how laughable is it to see that miserable creature cringing to me now as if to get in this way some favour also out of me.

I stand on no very confidential or friendly footing with Eichstädt, and only see him when I have any business to settle with him. He has not only failed as yet to procure me my salary, but has so managed things that I am to receive it minus fifty thalers which have been given to Luden, who, however, has more actual need of it than I have, for he has a wife and children. I am quite convinced that I should get some addition to my pay if I was to evince any disposition to leave this place, or merely said, that, without doing so, I must fall into debt ; for I conduct myself here in a strictly honourable manner, preserve as best I can my own independence, never appear begging at the courts : so that I have only to tell them that in the event of my contracting any debts, I must go. Now, if a man has behaved himself honestly, they are dead set against his doing this. It is because I preserve an independent spirit towards every one, flatter neither students or professors, but just tell them in a straightforward way what I think of them, of their lack of energy and miserable behaviour, and because, too, I am seen not to write for money, that they respect me ; and so it comes about that the highest individual treats me as upon an equality with him just because in all the ordinary affairs of life, such as dress, balls, concerts, and theatres, I take my stand in an independent fashion without exhibiting any conceit. Besides, I take up with no party and so manage to get on very well. I associate chiefly with Seebeck, Knebel, and the aged Stark, at whose house I often meet v. R——'s sister. She is an intelligent girl, a little bit eccentric, it is true—but one must not take that ill

of her, for she has got a good heart. Steffens was here with wife and children, and for eight days we made a very contented party together. He intends returning with Reil to Berlin, but I cannot *ceteris paribus* get away from here.

In Freiburg, the Professor of Clinical Medicine has died. Kilian came forward to fill his place, but he is looked upon there as a quarrelsome fellow and a plagiarist.

I am obliged, for the sake of the university, to publish something that is complete in behalf of my lectures : so that I write an elementary book upon the "Philosophy of Nature." It will embrace all the natural sciences, and you will soon read the plan of it. It is true there are not many who care much about this subject, but those who do listen to me are so taken up with it that most of them attend my course two or three times—so that I am content. I must strain every nerve at my work. My health suffers somewhat, but I still look forward to getting some rest in a year's time, and will then be forced to make some journey. Since his return I stand at present on good terms with Goethe.

Jena, February 3rd, 1809.

This evening there is an assembly in Weimar. I go there. Many pieces will be put before the audience. Goethe is delighted at having to organize something. I am to come under his plans, but do not know what part has been assigned me. On Monday the Antigone of Sophocles was capitally given ; the choruses, from not being strangers to their work, having, so far as I can judge, committed no faults. On Sunday we shall have a jolly day of it. Frau von Münchhausen, sister of Herr v. Rumohr, comes here from Reinburg to a large entertainment given by her sister in this town. You see, that we seem always to have something else to do—but it is, if not a sham,—only an appearance. The Jena people are a crabbed lot of pedants. Just imagine, I have sent all through the town to find some one who would go with me to Weimar ; but not a soul goes to the *redoute*. It is just the same with the theatre. Fromanns, Seebeck, Luden, Gries, and myself, are the only ones in Weimar who occasionally give any sign of being alive. Madame Schopenhauer's "teas" are very charming.

I stand at present so well with Goethe that I am with him day after day. He seems at first not to have known how to take me, as being doubtful whether I was to behave towards him as his humble servant, or as an independent human being. Now to all the men in this place I have conducted myself quite independently, and so have established my relations with all of them. Farewell, and console yourself for the loss you may have suffered at Jena by the good fortune you have met with in Munich. In the long run one can generally manage to look upon one's misfortunes from the bright and even sunny side.

My regards to your wife—for I hardly know what title she has besides. How comes it that the Munich Academy makes so little progress? What are the Parisians doing that run counter to this? I have long had an idea of working out sundry Reports upon the work done by Germans in the Natural Sciences, in order to counterbalance the frequently ill-natured ones made by Cuvier. If I had time, I would do this.

CHARLOTTE VON SCHILLER TO OKEN.

Weimar, March 29th, 1809.

As I do not know when you will come to us, and any how cannot expect that it will be soon, seeing that Jena has at present so many advantages over Weimar and that you intend withdrawing yourself from the world this summer, you must allow me to thank you sincerely in my own name and that of my sister for your friendly recollection of us and your kind communication. The enthusiasm and zeal with which you teach the sciences serves even to gladden the hearts of the uninitiated; and although we cannot render back in your precise language the scientific views and expressions which have interested us, I still hope that you credit us with having some sympathy with your labours and a ready appreciation of everything, that is said by you, from a human point of view. If once the Germans are impressed with a spirit of truth and earnestness, the sciences must soon in accordance with their nature be enabled to pursue their course through the most adverse circumstances with steadiness and precision.

I envy any one whose intellectual progress and endeavour to

trace the higher purposes of Nature has power to lift him above the ordinary affairs of this world! If imagination were not to gladden our hearts occasionally in a friendly manner, things about us would wear but a very gloomy aspect, for to us women but little leisure is left for scientific occupation. My good sister, Caroline, and myself feel how doubly precious are those moments of existence in which one can lead a kind of inner life ; for how often and by what mournful occurrences, such as the sufferings of my poor brother-in-law, are we reminded of the rough spots in human destiny. One chain of misfortune is tacked on to another, and after a few days of rest comes some new misfortune which reminds us that the ills to which flesh is heir are not dispersed but have simply put on some new shape. At present hard spots and swellings have again appeared upon the back of our invalid and make us feel very anxious. Accept these few lines from me in a kindly spirit, and rest assured, my dear professor, that we take a lively interest in you and are refreshed in spirit by your kindly communication.

OKEN TO SCHELLING.

Jena, April 24th, 1809.

If any one wishes to make another a present, it is but fair to ask himself first of all, whether the latter will look upon it as such. I certainly cannot desire that you should take the dedication of my essay as implying a gift; but I do wish that you would look upon it as a proof of my affection, and as such accept it with a good grace. As regards the contents, I must beg of you not to be less strict over them, but to tell me plainly what should be altered and what is deficient as to style, plan, order, or arrangement, etc. It is then only that I shall believe you have taken the book up in the spirit of my intentions and really honoured it with a perusal as a proof of your friendly feeling towards me.

As regards the civilities which are shown me by the Government and Grand Duke, I get on very well with these, but they don't think much about payment, which is a thing very needful to our feeble university, although it is at present better provided for than it was a year and a half ago. From the lecture list you will have

seen that I am lecturing upon Zoology. This is done at the Duke's special request, and for this purpose he has given me free admission to the museum at the castle, so that I am not obliged to ask Leny, who is my greatest friend, for the key whenever I want to go there. As you know, Schelver and Batsch must lecture at home, and can only take the students sometimes in the course of the half-year into the museum, upon which occasions Leny must have to put up with all kinds of stupid jokes ; but at present I lecture in the museum, have the castellan as my famulus, and am therefore a free man. In addition to all this the Duke grants me another favour : this Easter I was eight days at Weimar, waited upon the Duke, and had a long conversation with him upon all business matters that might possibly concern the university. Among other things, I suggested that it would be very kind of him if he would hand over to us at Jena the natural history copper-plates from the Weimar library, where no one could study them. He said that he was obliged to have them in Weimar, that they might be shown to strangers, and that he would look to the matter in the meantime. And so I left things to turn out as they might. I had scarcely got back to Jena when I received an answer that the librarian was commissioned to hire two rooms in the bishop's house, opposite the castle, and to deposit in them all the copper-plate works from Weimar, and also to unite with them all of the same kind from Büttner's library, so that at any time I might consult them and use them as diagrams in my discourses on Zoology. You may well imagine how all this has pleased me. But still with what mournful prospects in addition. The students have reached such a low ebb, that no one even understands how zoology can be a subject worthy of study, so that one must expect, that in spite of noble institutions and a considerable outlay, there will be exceeding few who will come as hearers. Nevertheless I go on lecturing, however scanty the number of my audience.

You will get this letter late on account of the war. My kind regards to your dear wife and greetings to Herr v. L—, if he is still with you. If I had only some spare cash, I should like to see what kind of life you lead in Münich, but I must not think of this just yet.

SCHELLING TO OKEN.

Munich, May 6th, 1809.

I must write again to you, my beloved friend ! I got from Fromann your programme upon "Light and Heat," though I had read it beforehand. I find it much better written than the last one upon the "Organs of Sense." You are quite right ; a little diminution of that petulant and lively style of writing, especially about Newton, will do no harm. It was only recently that I fell in with something written by some paltry fellow in the Reichsanzeiger. It was ridiculous and in ill taste, for he merely bolstered himself up with French authorities, and said nothing about the real and undeniable, inconsistencies that are to be taken account of in reading Newton's "Optics." Nevertheless, it is good for such deceitful fellows when they cannot dissever striking passages from their connection ; for to this end a more intimate study and steady education of the mind are indispensable. *Experto crede Ruperto.* As to the contents of your Essay, I thoroughly approve of them. Something philosophical, however, in the commencement appears to me too hastily written, or makes too great a pretension to being philosophical. As to Keppler, whom you regard in a certain measure as being Newton's predecessor on the subject of Light, I remember certain very distinct passages where he deals with light as a *species immaterialia*. It sounds somewhat like a *façon de parler* when you announce certain conclusions, which have been long accepted, as being fresh coined and only just discovered, e.g. the immateriality of light. You may rest assured that I do not remind you of such faults from any motives of self-conceit, for I have taken note of them elsewhere before now. I am very much disposed to admit the primitive character of darkness, having had considerable opportunity of confirming this opinion in a matter of a very different kind, yet I form to myself philosophically a somewhat different notion of the case. The mere phenomenon which light is, according to your theory, cannot stand opposed to darkness as the real element. For how does it happen that centre and periphery have a polaric qualitative relation which manifests itself reciprocally and establishes a tension between them ? That the spiritual can move

itself visibly only in the dark element, and must have this as a body or basis is certain ; but in so far as it is eliminated from the dark element, it is not merely tension, but light-element. In this sense I believe actually in two principles, darkness and light ; the pivot on which both turn, so to speak, being fire. You will receive through my bookseller the first part of my philosophic writings, and will find in the same a treatise which, though written in a different sense (being more of a metaphysical or ethical kind), has much to do with light, darkness, and fire. I would have readily made use of some analogies of your theory if they could have been easily found and set forth ; but still our lines of thought lie rather too far apart from one another.

You will have learnt from the papers that we have got very fortunately here through the beginning of the war. We are much indebted to the Arch-Duke for not coming this way, or else we might have suffered like Regensburg or Landshut, although the latter did not suffer so much as the former. No one who has seen here the Austrian soldiers, officers, and generals can doubt the upshot of the matter.

We think it was very appropriate Goethe's setting you up as the morning star in the last masquerade,¹ especially when the character comes to be rendered into Greek. But have none of the goddesses touched your heart, and are you still wholly untouched by another flame, to which you have often said, so soon as it was possible, you meant to succumb ? Farewell, dear friend, and write again soon.

A. VON ITTNER TO OKEN.

Freiburg in Baden, May 26th, 1809.

You are not forgotten, my most worthy professor, in the land of your birth. We all remember you with satisfaction as an industrious and distinguished young man who got his first education here, and has since then laid an excellent foundation for his fame by the

¹ A masquerade planned and conducted by Goethe and Falk on the 3rd of February, 1809, in the Town Hall of Weimar. Oken appearing as *φωσφόρος* or morning star.

publication of learned works both in Göttingen and Jena. Accordingly, when it became a question of filling up the vacancy caused by the death of Professor Müller, you of course became the subject of conversation, and the Grand Duke had already spoken a word in your favour. But, somehow, Schaffroth, a Freiburg pupil, slipped into the place. I got, however, from the ministry a reply of which I here send you a copy, bidding me keep a diligent look out and recall you at the first opportunity to your fatherland. All depends upon your telling me definitively, in what department of science you feel able to do the most work, and, this being done, I will take measures accordingly. Old Professor Morin has been already confined for two years to his bed, and can of course fulfil no duties whatever. We look forward ere long to his death, as in the event of this an occasion will be presented for proposing various changes. Let me hear from you, directed to this place, as the letter will be sent on to me in Switzerland, whither I have gone, though only for a few months, to my post in the embassy. Farewell, and believe me to be full of the same friendly feelings towards you as heretofore. P.S. Just imagine what the present possessor of my house in Heitersheim has done. He has cut down the beautiful acacia trees, under which you and I have so often studied together, and which were the oldest in Breisgau !

FROM THE SAME.

Freiburg, June 10th, 1809.

I should by rights have answered your three successive letters long ago, but still you are not the only one who has to complain of my silence. All that is now going on in the world, whether east or west, puts me in such an ill-humour, that I neglect even the most necessary duties of friendship.

In spite of all my protestations, Schaffroth has been preferred to the learned Hildebrand, whom I could so easily have secured. It is indeed self-evident that the former will never do the work that is expected from him—but then he has been brought up and educated in the society of this place, and people comfort themselves with this reflection.

Upon the occasion of my occupying the clinical chair, I have in my reports made honourable mention of you and your acquirements, of the persecution which you have formerly suffered in this place, have quoted passages from your more recent writings and discoveries, and thereupon proposed that particular attention should be given towards recalling you back to your native land. I have subsequently received a very interesting reply from the ministry, which I here append to my letter ; and believe me, for there is no need of any make-believe in the matter, you may now lay the document before your government with perfect truth and confidence. I have now some ground to work upon so soon as an opportunity turns up. Meanwhile do you do your part, and do not allow yourself to be led astray in every case by the uncertain prospect of affairs in this country. I say uncertain, for in fact, I am in dread of trying events that may come to pass. For should it so happen that the great Conqueror crushes Austria, it is very possible that he may put further pressure upon the Princes of the Confederation, and so extend his dominion, which already reaches from Wesel to the Boden-see, yet further towards the mountains. At least this is what very anxious people fear ; and in such case not only we ourselves but all our intellectual and literary foundations would be ruined. Thus I can neither for myself nor others form any rational plan.

So, meanwhile, if you should meet with any opportunity of procuring for yourself some profitable calling, or feel content with remaining where you now are, do not neglect doing so, as I am not master of events and have meanwhile many matters to look after.

By the great purchase of estates which we have recently made, we have "bled" very freely. We have bought the Weinstätterhof near Heitersheim, the beautiful Heitersheim property near Steinestadt, the Mundenhof near Freiburg along with a good lot of meadows and land for cultivation. The whole amounts to an outlay of 150,000 florins, and was the only means we had of consolidating, and rendering ourselves independent of the government. We pay down a third of the above sum, the remainder standing to our credit, or otherwise we should have had to have paid yearly 12,000 florins. We hope to make yet further acquisitions.

OKEN TO SCHELLING.

Jena, December 19th, 1809.

I had wished to answer by word of mouth your last letter, and so travelled full of pleasant thoughts, but ignorant of what had occurred, from Switzerland to Munich. There I learnt with grief the sad news of your loss [the death of Schelling's wife, Caroline, September 7th, 1809].

I could scarcely recover myself, for my heart, so full of joy at again seeing you, had suffered a severe shock. Meanwhile, however, sorrow must be silent, and so I will not allude to the subject any more.

I might find much to write to you about, but am not in a good cue for doing so, and cannot therefore tell you what I otherwise would. I begin to be discontented, partly, because there is no one here with whom I can exchange a rational word concerning my own pursuits, or with whom I could in other respects freely associate without at the same time bringing in secondary matters, and partly because my relation to the Government has undergone a change.

You know better than I do what a vain man Goethe is. He would like every man to be fashioned after his own model, and yet, at the same time, be his humble servant. The young Professor Voigt (you must bear with me in making my complaints to you, for I look upon you, and know that I may do so, as a friend, and I have not another one upon earth to whom I could do this), is, as you likewise know, a weak, foolish individual, for just because he lets everything please him and plays the part of a downright boot-jack, he has won the good graces of Major v. Knebel, Goethe's friend ; and as nothing pleases the latter better than appearing to have an influence at court, he has given Goethe all kinds of trouble in behalf of this Voigt. He thus became professor in Schelver's place, and lectured for two years on Botany and Natural History, though he seldom contrived to bring the two subjects into harmony with each other.

The general opinion is against Voigt as being a dunce ; everybody laughs at him (which irritates Knebel and Goethe, seeing that

his appointment was their handiwork), and tries his best to oust him from his post. The Duke long ago wished me to lecture upon Zoology, and during the past summer I did this, and had far more hearers than Voigt ever had. Goethe was obliged to grant me the use of the museum. And ever since then he has behaved in the strangest manner towards me, whereas formerly he has received me into his house. It was easy to foresee that Voigt would never bring his class pupils together this winter (for in winter he only lectured once upon Natural History, I having during the summer had those hearers which should have been his in the winter). Knebel and Goethe therefore knew of no better thing to do than to send Voigt this *winter* to Paris, and the Duke gave him a quarter of a year's salary for this purpose. Everybody laughed at the madness of sending a botanist to Paris in the winter, but it was a very cunning stroke. They would not have sent him there without having some object in view, for the Duke would not, of course, like to throw his money away. So they will be safe to hand over to him the collection of natural objects when the time comes.

Meanwhile, I laughed at all this and made a journey into Switzerland, and to you. Upon my return I heard the wildest gossip. Everybody here and at Weimar had been saying that I would not come again to Jena, and that I had been seeking an appointment in Würzburg, Münich, and Landshut, etc. Every one had been given to understand that I was endeavouring to get away from the place. This report could have no good effect upon the Government. Finally, Goethe had spread about the report that I did not mean to leave things in their old order in the collection, but intended to arrange them after my own ideas. A clumsy lie this, which owed its origin to the fact of my famulus, the castellan, having somewhat displaced some specimens—which had, however, never been arranged in an orderly way.

In the first letter of permission, the use of the collection was granted for one semester. Meanwhile Goethe had probably his own views. I have now six weeks ago begged Goethe in the most courteous manner for a renewal of the permit, and have to this hour remained without any answer. Meanwhile, I lecture in my auditorium, which I can do very well, as I am still occupied with the mineralogical and zoological parts of my course; but, when

I come to the zoological portion, I shall be obliged to close the college doors in the middle of the term. There then remain only two resources—either to make every effort to procure for myself a collection, in which case I could at once say good-bye to that at the castle, or else go from here, which just now my prospects do not admit of my doing. I have meanwhile advanced so far in the Natural History, that I have now instituted in the mineralogical and zoological departments thorough natural families. I am desirous of publishing soon a handbook of Natural History.

Fare thee well and be comforted. The joy of seeing you again is, unfortunately, not very near. Do not forget me, but do nothing for me before the right time—for I can very well look forward and await the right moment. Thanks for the book you sent me.

ITTNER TO OKEN.

Freiburg in Breisgau, July 10th, 1810.

Gmelin in Tübingen cannot accept the call which I sent him for the Academy here, because the King has already promoted him; so that the place is still vacant. This induces me to ask you whether you have still any wish to return to your worthy fatherland. I have already told you long ago that I have a ministerial letter bidding me take the first seasonable opportunity of recalling you. I cannot see any sufficient reasons for your remaining any longer in Jena. It is true literary activity is not so great here as in the country where you are at present, seeing that we, though settled down in the south-west corner of Germany under a very bright and genial climate, are burdened in our communications with North Germany by a heavy postal tariff. We stand, however, in closer union with our neighbours France, Italy and Switzerland. Here you would be able to collect natural objects enough, for the mountains and plains are full of them. I would, besides, readily give up to you the academical cabinet of natural objects, which has become very rich through the addition of certain collections, out of some suppressed cloisters, which have been bestowed upon us through the kindness of the Grand Duke. I have enlarged the botanical garden considerably; but Menziger, who lives close by, is old and will not

be able to do much more work. I quite think that you ought to come and live in this cheap country—which is a true *pays de cocagne*—where every enjoyment of life can be had at the most reasonable price—besides eleven hundred florins as the usual college salary. Nay, more, you do not stand in personal need of such a sum, so that a fair portion of it may be spent upon books and the natural objects of which you are in quest.

Now, or never perhaps, is the time for you to come to some determination; for such opportunities do not always occur. I earnestly beg of you to let me know your intentions, and do not delay any longer. Fare thee well, and pray give me some proofs before long of your existence.

MESMER TO OKEN.¹

Frauenfeld, Switzerland, Dec. 22nd, 1811.

You are the first German to whose spirit and wide-spread reputation I feel grateful for having my discoveries rescued from oblivion. For thirty years I have been busy in promulgating and confirming by continued observation of facts the new gospel of nature. I practised my art and taught its doctrines throughout France for ten years, and still the whole country remains unconverted, or, in a state of ignorant disbelief. Henceforth no one would condescend to announce to the public the most important discoveries that were ever made for the comfort and consolation of humanity. At the very moment in which I received your letter with a little note enclosed, through Professor Ittner from Constance, I had before me Wibekind's "Geist der Zeit," where I was especially struck with an article by Reil entitled "Zur Beförderung einer Kurmethode auf psychischen Wege" (2 vols., Halle. 1808-12). I was very inwardly pleased at finding you were acquainted with this famous man, to whom in my own mind I feel very akin and that you think he is to be made a patron of my doctrines. I gather from the work above-mentioned that persons, generally

¹ The originator of the doctrine of Animal Magnetism. The attention which has been recently given to the phenomena grouped under this title has induced me to reprint the following letters. The university library of Freiburg is in possession of eleven letters of Mesmer.

speaking, are getting very discontented with the ever-increasing confusion and purposeless character of the medical art, and are earnestly longing for something better. Now by the discovery of a previously unknown natural force, as being that which constitutes the real principle of life, it has been proved that an entire transmutation of the art of healing is rendered possible. A simple system of life and its maintenance, based upon the organism of nature and man, must in future become the substitute for the exploded art of medicine, and such has always been the object of all my endeavours.

Flattering as may be the wish expressed by yourself and Professor Reil of seeing me in Berlin, along with the latter's generous proposal of assigning me a hospital for my experiments, it must be borne in mind that my present age of seventy-eight would not admit of my undertaking so long a journey. Still less could I determine, by means of new experiments, to encounter the odious crusade against ignorance and unbelief. You know that ten years ago I made an offer to all the German governments, through the agency of a circular printed at Versailles, not only to prove my knowledge by experiments, but to introduce these into their different States. Now, in accordance with your friendly wishes, I would beg you to request the worthy Reil, seeing that this is an object of national welfare, to get the government to consent to a proposal of his making next spring a journey to Switzerland in order to obtain from me as its source, within two or three months, a complete and intelligible course of instruction concerning the whole doctrine and its leading facts. The best course to be adopted in reference to the new art of healing as being one that can not only cure but ward off diseases, is, in my opinion, to introduce it through Professor Reil into the Prussian States. His time of residence here might be employed in translating my manuscript, as it now stands prepared, from the French, and he could then take back the work with him already printed. I beg you to turn over this proposal of mine carefully and considerately with Professor Reil, and send me timely notice concerning it. In conclusion, I present my respects to the worthy professor, and beg you to assure him that he will find me at all times ready to promote his philanthropic views. Yours most devotedly.

FROM THE SAME.

Frauenfeld, January 22nd, 1812.

What you have written to me in praise of Professor Reil, of his present position and great reputation, serves only to strengthen my decision of entrusting my new doctrine and its application to no one else than him. It becomes a pressing question touching the humanity and honour of Germany that no time should be lost by him in obtaining from me, during the few remaining years of my life, full instructions, such as would enable him to fill the post intended for myself in Berlin.

I trust that I shall not offend your generous zeal in behalf of my honour and the good cause, if I prove to you as the result of a long experience, how little power the *making of experiments* in animal magnetism has towards overcoming the scepticism or rather ill-will of the so-called *savants*.

The first and most important experiments which I had made in reference to my discoveries, in Vienna, 1775, were on their very first announcement submitted for judgment by the Austrian ambassador Vanswieten in Berlin to the Academy of Sciences there—and the reply then given was very briefly to this effect—that they saw nothing in the phenomena and experiments that ran counter to any physical principles. I subsequently had to hear the same verdict given by the Vienna Faculty, under whose very eyes I elicited the most striking facts. In Paris I shared the same fate at the hands of the Academy, Faculties and Institute, and had to struggle in vain, despite a thousand facts brought before them through a period of ten years, with the whole of France. You are well aware what effect the experiments had that were made in Strassburg before the Princes and learned men of Germany, and at a time, too, when I had requested all the governments not to make experiments—namely, that they declared the whole business to be an imposition, while, meanwhile, I, with all my generous proposals, was left without an answer. Finally, Hufeland in Berlin, with no doubt the intention of flattering the ignorant public, did not hesitate to abuse me in the public papers, and count my name as one among the number of despicable charlatans. After all this you

will, my good friend, admit that I was somewhat in the right when I laid it down as a rule to myself never to perform experiments for the sake of gratifying curiosity or producing conviction. So soon as you are certain that Reil will not travel into Switzerland, from that moment you may rest assured that Mesmer will not go into the land of unbelievers.

In conclusion ; I have written to Reil and excused myself, for very cogent reasons, from accepting the honourable invitation—while at the same time I have made the proposal (seeing that this is not a matter of private business, but one that concerns the welfare of the nation and its deputies) that he should procure from the government, in behalf of the acquisition of the new healing art, a formal commission to make in *propria persona* a so-called journey of research, so as to obtain from me during a residence of six weeks perfect instructions upon the whole subject.

As it is the general spirit of unbelief in this land, such as you have described it, which prevents our common wishes from being fulfilled, I have advised Reil in my letters, before undertaking this business, to remove in a general way the prejudice of unbelief : for to do this would be possible if he and you along with other learned men could induce the hitherto misguided public, as well as its rulers, by means of favourable announcements, recommendations, graphic descriptions of general interest in journals and public papers, to actually *wish* for the speedy introduction and organization of the new art—in short, by dealing with the latter in the same way as served to secure the rapid spread of vaccination. I beg you for the sake of humanity, and your credit in the learned world, to contribute all you can towards this object. At the same time I request you to forward to Reil for his constant use the printed compendium. In expectation of learning from you your further intentions, I remain yours, etc., etc.

DÖLLINGER TO OKEN.

Würzburg, April 21st, 1816.

The results, my dearest friend, which Pander and I have obtained after yearly investigation of incubated ova (we have examined nearly two thousand) appear to me to be very interesting, and

twenty-one very good plates ought, we hope, sufficiently to explain all that can be said about them. Pander intends to issue a discourse upon the essential stages of development, and more in detail will be given in the copper-plates. Pander is at present away from home ; but so soon as he returns he intends to give a brief sketch of the whole matter in the *Isis*, with myself as co-operator supplying the text. Meanwhile, you will see that we have taken but a limited point of view to guide us in our researches. Besides, the subject is one of such immeasurable scope, that we must needs bring it within some limits unless we were to remain together two years longer, which cannot be. If only you would come to us, what pleasure it would afford me.

I intend publishing along with D'Alton some zoological plates in numbers ; and what do you say to that ? Have you any good advice to give me, or could you furnish me with any suitable drawings ? So soon as the announcement of my work is printed I will send it to you. I go for the autumn holidays to München to visit my brother and see for once how matters advance at headquarters. Would that you could accompany me ?

OKEN TO SCHELLING.

Jena, July 30th, 1816.

I hope to be enabled to recompense you some day for all that you have done for me as teacher, patron, and friend, and trust that your sorrow, as is meet it should, will pass away. If you have a mind to do it, give us in the *Isis* a sketch of all your performances and pursuits, and unfold to us the contents and value of your writings. Who can do it better than you can yourself? but if not so, others must do it. Whether I have time or no for such a work, I scarcely know, as my lectures and editorship of the *Isis* take up a good deal of my time. You know that to live one must work. May you be a friendly guardian of the *Isis*. What you wish to bring before the public, share with me.

Yours most gratefully,
OKEN.

D'ALTON TO OKEN.¹*Würzburg, April 6th, 1817.*

Some weeks ago I received at the hands of Professor Döllinger the third volume of your "Natural History" (without the copper-plates) addressed to me. I feel the more indebted to you for this friendly memento as my unswerving estimation of your rare merits has now reached to the pitch of downright admiration. It would sound like flattery if I was to tell you with what interest I read your *Isis*. Who is there who would not rejoice at finding in its pages such a clear and forcible declaration of noble feelings and opinions, with the element of good added to them and truth also confirmed.

I, too, have not been idle since we last met, though at the same time it would never occur to me, or indeed any one else, to institute a comparison between his working activity and yours. Last year appeared the second part of my work (upon the "Natural History of the Horse." Bonn, 1810-16). It is not without some reserve that I venture to ask permission to send you a copy of this. As, with the exception of a few copies, I retailed the first part direct to well-to-do horse fanciers; so also in the second I have had in mind the same class of purchasers (whom no one will envy me), as I might well feel ashamed of having such. If this should come to a second edition, I intend not only to increase the number of anatomical plates, but arrange the text, which is subsequently to be printed in octavo, in a totally different way, for my views and insights have lately been much enlarged, and to this the investigations on the incubating ovum, which I have carried on with much industry for a year in conjunction with Döllinger and Pander, have contributed not a little. We have, in short, examined several thousand eggs, and seen literally wonderful things. If only the favour could be granted us of having you as a witness to our discoveries; or could you come just at present, when we are at the end of our investigations and could show you everything in Nature just as you may

¹ I have, on account of the great importance attaching to the works of Döllinger, Pander and D'Alton upon the developmental history of the chick, thought it advisable to print the following letters of D'Alton.

soon see it engraved, you would I feel sure be richly rewarded for your journey. My two friends (who send you respectful greetings) cherish along with me the same wish. In the course of six to eight weeks both text and copper-plates ought to be printed, and in your hands. With full confidence we acknowledge you to be our judge, etc. You will, we feel sure, with your marvellous and steady love of truth, make no mistakes in recognizing facts, however differently they may turn out to what you have thought. I must, however, conclude for fear of delaying my letter; so fare thee well, honoured friend, and be assured of my respect.

SCHÖNLEIN TO OKEN.¹

Bamberg, April 13th, 1817.

I unfortunately did not get your letter of the 19th of March until yesterday. At Professor Döllinger's invitation, I went to Würzburg to assist at the investigations of the incubating ovum. I came back late from thence and so got your letter late. We hoped to have seen you in Würzburg, and Döllinger felt so certain that you would fulfil D'Alton's request that he was ready to lay sundry bets upon the matter. I should have liked to understand the genesis of the brain; but was prevented from doing so by having to make a necessary journey to Munich. When I come back this will be my first business.

I am glad to find that my projected voyage to the East Indies gives you satisfaction. I am satisfied, from the questions which you have put to me, that you are earnest in promoting the whole plan. Allow me to set before you the answers to each of these in the same order in which they stand.

1. My main object is by no means to get a merely lucrative appointment or post. I do indeed possess some income, but not so much as by a long way to meet the expenses of such a journey.

2. My object is avowedly to make investigations in natural history and medicine in that land, and so any post would be

¹ A distinguished German physician, born at Bamberg, in 1793. In 1833, professor of clinical medicine at Zürich. In 1840, delivered lectures at Berlin.

desirable, *provided it offered sufficient means for attaining that object.*

3, 4 I have already, in a former letter, declared my object to be not merely the study of medicine, but also of natural history. At the same time it would interest me much to study diseases, and especially skin-diseases, out in India ; added to which I should like to make investigations in geology, comparative anatomy and vegetable geography. That I am skilled enough in one of these subjects, you have been so kind as to mention, while Döllinger, Schultes, Fuchs, etc., can bear testimony to my abilities as regards the others.

To sum up the whole matter, I should very much like to get some post that would enable me to visit, besides Java, other portions of India and especially the Molluccas. Let me only get to Java ! and in a short time I may get means for undertaking journeys and instituting researches such as will be in keeping with the object of my visit and my own special inclinations ! I trust you will take this whole matter to heart as a kind of scientific trust, and honour me soon with a letter. In case of your letter arriving after I have left for Munich, I will make arrangements for having it forwarded to me.

D'ALTON TO OKEN.

Wertheim am Main, Sept. 18th, 1817.

Some days ago, my worthy friend, the seventh number of the *Isis* fell into my hands—and I therefore hasten to send you word how far we have got in our investigations upon the incubating ovum and what you have to expect as the result of our labours.

But how am I to begin to give you in brief any provisional notion of our discoveries, when even the most important work that has appeared upon this subject (that of Wolff "Upon the Formation of the Intestinal Canal") has been so little noticed and understood ? I readily confess to you, that after repeated perusal of his essay, and even after diligent investigation of more than a hundred embryos of the age marked out by Wolff, we have not attained to any distinct notion of what is there told us, and have found ourselves driven many times to a condition of utter hopelessness. Still, what

we previously despised as being utterly confused, we learnt at last to value highly, nay more, to marvel at. The difficulty of the whole matter lies in describing the object, the nature of which admits only of being recognized when seen in all its connections, and then, owing to such many-sided relations, can be but dimly expressed in words, though in the end these are all we have to depend upon for supplying us with anything like information.

When I tell you, my dear friend, that for four and a half years we have made this subject by itself our most engrossing study, that during this time, which (setting aside the advantages of one of us questioning and correcting the views of the other until we had come to some mutual agreement as to the accuracy of our observations) amounts to as much as would have been spent, had only one of us busied himself with the matter for the same period—when I tell you that during this interval three thousand ova have been examined, as can be testified by the whole of Würzburg, including the minister, Von Lechenfeld, and young students even, as well as by scientific friends who have passed through our town on their travels (amongst whom may be mentioned Dr. Köhler and Mencke, who stayed some months in Würzburg with this object in view only), you may well imagine that we have not been bent upon merely conciliating our opinions with those of Wolff. After reading up diligently all that had been written by Aristotle down to Tiedemann, we could only bear witness to four writers as having really examined objects and made discoveries for themselves. (For, it must be borne in mind that, to take away the eggs from one or two sitting hens and just to open them, as may have been done by many persons, cannot be strictly called investigation.) Malpighi, Haller, Wolff, and Spallanzani, are the only ones who deserve to be called students of Nature. It is truly wonderful how accessible this subject was to Malpighi; for he had actually seen the foetus upon the vitellus and figured it along with the nucleus of the cicatricula or "tread"; and as to what Haller saw distinctly and Wolff observed so acutely, it is surprising how near they were to making another most important discovery, and how little the circulation so distinctly seen by Spallanzani has been noticed by others; or else there could be no longer any question as to which vessel was a vein and which an artery!

How stands it at present with Physiology? Of *real* knowledge we can hardly speak: I only wonder that so much has been guessed at, which is at present proved to be true. What is to be said if some have seen the foetus swimming about in a fluid material like a worm-shaped thread? Believe me, my dear friend, I am not boasting vainly of the pains we have taken (though Lessing does say that a man must needs glory in his industry), for if so, tear up this letter and burn the copies of my book that accompany it, or, to be brief, let the work, just as it passed out of my hands into yours, be judged of by yourself. If you could have come to us this Easter we could of course have shown you everything. In this matter, however, one must first learn how to *investigate*, how to *see*. The microscope, like every other instrument, requires a master-hand to do its business thoroughly.

The position of the heart and its prolongation into the arches can only be detected as long as the blood is in active movement. A fresh stimulus induced by a drop of water being placed upon a glass plate produces suddenly, after several minutes pause, the action of the heart. By means of this experiment, the foetus having been previously cut out along with its vascular area and spread out upon a glass disc, we have seen most distinctly for several minutes, just as we have figured it, the circulation of the blood. We saw most distinctly the blood corpuscles passing from the vena terminalis from the descending and ascending vein into the heart, and from the two arterial trunks and their multiple ramifications into the vena terminalis. Spallanzani saw the same things also, but only noticed one vein above, an error, which was easily made, as both veins lie very close to each other, the one lying frequently at the posterior end of the foetus, so that at a first glance only one vessel may be detected. Without such advantages as we had of gaining information one would see nothing, or at least nothing in its proper connection.

And now a word as to one feature in our discovery which I consider the most important we have made, for the other peculiarities, such as the original formation of the heart, are only a result of the former. The foetus is formed in the germinal membrane. By a peculiar transmutation of the same into folds and envelopes are formed, not merely the two cowls or hoods described by Wolff,

or the true and false amnions, but even the integument of the foetus, the heart and intestines, so that these stand constantly in a special and intimate association. The germinal membrane appears first of all in the vitelline membrane (which subsequently disappears entirely) at the point where the cicatricula occurs, as the boundary between two spheres. On both sides of this membrane are formed two others of different importance, for in one of them originate the vessels quite separately, through the formation of the blood and, as it were, in antagonism to the heart, with which they are only united by the common membrane and so reach that organ. The other membrane is evolved outwardly by itself, and forms the amnion proper of Wolff, besides seeming to form in an inward direction the pericardium. The first transformation of the germinal membrane, the form of which is described by Blumenbach as biscuit-shaped (or better still like a sole), consists of two folds running longitudinally, and within these appears the spinal column, so that the nervous cord and the formation of the blood appear to be the first and original structures. The brain is a secondary formation, while on the other hand the spinal column appears at once to consist of vertebrae (a discovery this, which to you must be a particular source of pleasure). The veins are developed before the arteries, if we may so speak, for at first the blood alone is visible anterior to the wall which subsequently encloses it. We shall be able to demonstrate the formation of vessels from their first commencement, as well as of the heart up to the complete circulation. The changes undergone by the membranes, a point at which Wolff's researches become intelligible, we shall endeavour to explain by means of ideal sections, just as in a series of faithful sketches, designed to explain the different forms of embryonic development, we have endeavoured to render intelligible the whole history of development.

In default of better impressions I send you some rather poor ones which, in order to bring out the outlines marked by letters, must be steeped in oil. A text without copper-plates will be printed as a dissertation in Latin and is already finished. Another text in German, to which belong these plates, but which corresponds to the Latin text, is now in the press. This misfortune (as one may call it) of a double text, of which the one is not intelligible without

the other, seeing that the Latin bears reference to the well-known designs of Malpighi and Haller, while the German holds the same position to the notes of the Latin, has arisen from the fact, that Pander, at whose expense the whole investigation has been made (amounting, thanks be to him, to several thousand gulden), must give up a larger number of copies to the university than the plates, on account of their necessary fine engravings, could be got to furnish. Thus on their appearance Latin copies merely, without the copper-plates, will be distributed to the university.

According to our latest agreement the German treatise will not pass into the book-shops but be sent by Pander in the most liberal way to all friends of science. The printing of the latter, as also of the copper-plates, will in a few days be done in first-rate style, and as such be sent to you. In spite of all our attentive observation we have not succeeded in finding an allantois.

Döllinger has gone to Munich, and from there in a few days Pander sets out *via* Vienna for Italy: so that we may probably meet again upon the shores of the Adriatic. In a few days I also will take in hand my walking-staff and may probably give you a call. Farewell, dear friend, and with the highest regards, believe me yours, etc. My wife sends kind messages to you and your wife. As regards my "Natural History of the Horse," I will very shortly avail myself of your kindness; but am at present so busy that I can only write these lines at night.

If upon getting my treatise upon the ovum you would make some announcement of it in the *Isis*, I am quite ready to engrave a plate in explanation of the most important points and send it to you free of expense.

S. F. WÜCHERER TO OKEN.¹

Freiburg, October 11th, 1817.

You will already know that the suppression of Heidelberg has been decided upon. Klüber was the chief mainspring of the movement. It was not the trash that was published by Zacharia for the maintenance of Heidelberg University (a bad translation of our

¹ Professor of Physics and Technology to Freiburg University.

Promemoria into Heidelberg language), but Marschall's sudden death that cut matters short. Now it is Freiburg's turn again to be suppressed. Meanwhile, the Würtemberg estates and rents are to be sold, the professorial chairs curtailed, while the funds of the stipendia liberæ collationis are to be spent upon the salaries of professors.

WERK TO OKEN.¹

Freiburg, November 24th, 1817.

You beg me tell you, my dearest friend, what is the real state of the case as regards the letter of supplication to the holy Father, and I here send you what little I know about the matter. At the time when the university was in a state of danger and suspense, the Consistorium determined upon applying to Rome in order to solicit the aid of papal troops against the Lutheran ministry. Ruef made a rough sketch of the epistle, Hug revised and Schaffroth under-signed it—*i.e.* in Latin. Thus prepared, the thing was hurried into the hands of the Nuncio at Lucerne, and from there reached the feet of his Holiness. Now, as I took no part in the sittings of the Consistory, I heard nothing of its verbal tenor and know only in a summary way that the university was represented as being an institution for Catholics and its estates as clerical ones, upon which his Holiness would the more readily bestow his protection, as the foundation was established by their ancestors and was now being maligned by a Protestant government. The latter clause was described by Ruef (who is, as is well known, a good Catholic, or was so once) as being very intolerant. The holy Father took compassion upon his oppressed children and sent them a brief, in which he said incidentally : that though they had by no means deserved well of him, he would take care of them, but hoped for some decided improvement and would exercise what influence he could. Hereupon the suppliants felt ashamed and were for making a reply to the somewhat austere though still holy Father ; but matters took a cheerful turn, and there was no more danger in view.

How would these gentlemen manage to excuse themselves if

¹ Professor of Theology to the Freiburg University.

they were summoned on account of this correspondence to defend themselves before the government, seeing that they ran counter to it with excuses on account of a statement which they had never made? Vale atque etiam Vale!

SIMON ERHARDT TO OKEN.¹

Freiburg, December 3rd, 1817.

I have read with satisfaction in the *Isis* your treatise upon Freiburg at a time when I did not know that it would much interest me, not being then a member, as now, of the university. Since then I have often thought over the contents of that important document and wished to be better acquainted with you as one whom I honour for not only desiring what is just and good, but as having the courage to express his intentions distinctly. The university, to which I have been summoned from Erlangen, has advantages which are very badly known or not known at all, and with these you are better acquainted than I am. My philosophical lectures upon the whole system of philosophy, psychology and German classical literature, have not only been attended by from eighty to ninety students, but by educated persons of a different rank in life, which is a proof that the students of this place are neither deficient in a taste for true philosophy nor in the power of forming a judgment upon such a subject. Despite all this we have been constantly dealt with in the most unjust way by the Carlsruhe Government. Whilst in Heidelberg one new professor is appointed after another, the government vouchsafes no answer to our most urgent proposals. The cause of all this is a new project for letting a special school for Catholic theologians subsist in Freiburg, while leaving the medical and juristic faculties to decay. The main and secret instigators of all this are the Heidelbergers! their influence over the ministry being greater than ours—for, our Consistoria, with the exception of some few, have gone to sleep upon their respective chairs, and I may truly say, that when I saw them seated for the first time together and deliberating about the welfare of the Albertina Insti-

¹ Professor of Philosophy in Freiburg University.

tute, I wondered that Freiburg had not already been suppressed. Fortunately we have at present in Wücherer a valiant prorector, and I for one, will do all that lies in my power as an individual to frustrate this pernicious project. We must manage matters so that Freiburg, about which no one knows anything, shall have again a voice, be spoken of in literary journals, and meanwhile we must take no heed to the timidity of a parcel of old hands. Continue to say over and over again something good about Freiburg, even in your journal, as in this way you will succeed in bringing together all the better heads of the university. And now, mind, no offence!

WARNKÖNIG TO OKEN.

Liége, December 29th, 1817.

[In the year 1817 Oken was asked if he felt disposed to accept a professorship of Natural History in the Netherlands University of Louvain. At the beginning of the following letter Professor Warnkönig (then Professor of Law in Liege) informs Oken that Dr. Hoorbour (Privy Councillor and Rector of the University of Louvain) had set his hopes upon Oken, and begged him to ask the latter if he was inclined to accept a proposal from the Government, such as would prove especially agreeable to him as to all other German professors. Warnkönig then proceeds to write as follows.—ECKER.]

Considering the peculiar position occupied by our country, as a new State, that its constitution is very liberal, and as I look upon it as the freest and most conformable to nature of all European States, it will be incumbent upon you, especially as a high-class teacher in such a country, to observe sundry points concerning which Dr. Hoorbour has been charged to make you acquainted. To wit, we professors must never allow ourselves to be drawn into any political matters, this being the express wish of the King himself—and one which it is all the easier to fulfil as the latter commends himself to every one as being a very wise ruler worthy of the greatest respect, while the Government of the State responds to all just claims that are made upon it, just as it does in Germany. It is true that the

people frequently complain of and abuse the present Government and for very good reasons, namely, their extravagant notions about freedom, religious privileges, and a long continued habit of finding fault with everything that exists. If, then, you accord with the King's wishes in the above respects, and do not shirk the very difficult work of helping to found an university, have the goodness to write to me, so that I may make mention of you to Dr. Hoorbour, whereupon you will learn more of an official character. Kind regards to Councillor Luden, Martin, and their families, etc., etc.

WANKER TO OKEN.¹

Freiburg, January 8th, 1818.

I thank you heartily for the kindly mention you make of me in your letter to Councillor Menziger ; and if in former days I have had the opportunity of doing you any favours, I feel sufficiently rewarded by finding that they have brought forth good fruits. If you have become dear to the world through your writings, you have been so long ago to me by your goodness of heart. Our university is always struggling for its existence, and you will through the booksellers get a look at two new publications touching the *maintenance of our university* and the special schools. The latter pamphlet was forced upon us by the fact that after applying urgently for more than a half year to have the posts of the deceased professors of law, Lugo, Weisegger and Sauter reoccupied, we have got no answer, and so begin to fear that the jurists and medical men will be left to die out and the Universal-studium in Freiburg become converted into a theological "Spezialschule." We have made a good acquisition in Professor Erhardt.

FR. LUD. JAHN TO OKEN.

Berlin, Easter, 1818.

There is a report about here that you intend leaving Jena. Don't do it. A promulgator of new doctrines must have an

¹ Professor of Theology in Freiburg University. Born 1758, died 1824.

auditory, and without a lot of youths to participate in them, the man of science is but a solitary unit. Scholars and disciples serve to knit him to his contemporaries and to posterity.

Mind, too, and do not give up the *Isis*. You may leave out many things that would give offence, without derogating from your own truth and dignity.

Many persons of importance anticipate soon a war. The King will travel to Moscow and take with him a writing tent. Scarcely any one is well disposed towards Russia, not even the most strait-laced persons.

Besides, one town comes after the other and makes inquiry into the form of government that has been promised it. Kämptz makes himself ridiculous at all times in the privy council, just because he *will* speak and can scarcely get his words out for stammering. Kämptz, Ancillon, and Knesebeck, who was formerly a disreputable Jacobiner, were recently of opinion that the privy council would not dare to indite a decree, or pass any sound judgment, etc. In a word, they are so stupid. All kinds of jokes are made about this, and as the meeting-hall is warmed with hot air, this gives occasion, too, for many a fresh joke. Fare thee well.

WANKER TO OKEN.

Freiburg, August 18th, 1818.

I take the present opportunity, not of writing to you about myself, for I have little to say about that, having suffered for a year from nervous debility—but to give you the latest news about our university. We have made a great acquisition in our Professor Erhardt, as being not only a learned but also a brave man; the announcement of the Eleutheria is mainly his work, and the whole staff of the university has now an opportunity of putting aside childish conceits. How is it that the South Germans are generally so anxious about introducing to the public what they really think and know to be good? and why do others issue so much crude work without any scruples whatever? Have the former incorrectly understood the “*nonum prematur in annum.*” We have here at present the *gymnasial* prefect, Kefer. He is distinguished

for historical inquiry and is conversant with the ancient languages, even the Coptic. He has deciphered an inscription in the latter characters, at which Hug worked for a long while in vain ; he has worked out the origin of the Gipsies, and contradicted, as I think, very soundly a learned writer, whose name has escaped me, but whose work upon Gipsies procured his summons to Moscow ; besides all this he has a number of other matters in hand. All this, however, lies in his desk, and the man is so little taken up with himself, that he regards nothing for what it is worth ; while, besides, his external appearance and method of delivery are not very commendable. He has notified himself as applicant for the historical chair. His acquirements have been acknowledged, but the Faculty has proposed three others, Hornthal from Würzburg, Becker from Bamberg, and Mone from Heidelberg. As professor of philology the philosophical Faculty is desirous of having the Jew, Marx, from Carlsruhe. I hear that he is much approved of, but know nothing more about him than his works in reference to the Pestalozzian school, of which last I am no enthusiastic admirer. Ittner, the son of our curator, has now become professor ordinarius of general and special natural history, and is thoroughly worthy of the post. With all these endeavours to bring our high-school into a flourishing condition, our class suffers yearly from an increasing deficit, and shows no signs at present of bettering itself from an economical point of view. Formerly we were in danger of dying from literary hectic or consumption, and now we are threatened with death from starvation. At the beginning of this semester Dr. Schütz from Bühl was appointed Professor of Medicine, so as to make room for Dr. Wolf. Schütz may be a very fine fellow, but little gain is made to the science of medicine by his appointment. Upon the other hand, Dutlinger, who was formerly aulic advocate in Meersburg, confers real honour upon his post as professor praxis juridicæ. Farewell, and do not forget, yours, etc.

GRAF VON KEYSERLINGK TO OKEN.

Heidelberg, March 27th, 1819.

A very serious event has just occurred in our neighbourhood which I cannot avoid mentioning to you, although by this time you

will probably have heard of it or will at least soon do so. Kotzebue has been murdered in his apartments at Mannheim by a student of the name of Sand giving him two stabs with a dagger, the perpetrator of the crime inflicting upon himself likewise some fatal thrusts, though he lived some time after. He had come on foot to Mannheim, and had in his possession one hundred and eighty Friederichs d'or. After the deed was done he called out from under the door: "Thank God it is finished." The act does not seem to be the result of any personally bitter feeling or excited state of mind, but to spring from some secret association, the centre of which is said to be at Jena. It is at all events striking enough that H. v. Stourdza should have shortly before been interviewed by two Jena individuals who stated to him that the murderer had declared that on the same day, the 23rd of March, ten others would be murdered; besides, important papers would appear to have been found upon him, which have been sent at once to Carlsruhe, and give some hint as to the above-mentioned secret association. In Carlsruhe people are, generally speaking, terrified, for the Russian ambassador, Baron von Anstetten, has already made an open declaration to the effect that the Russian cabinet, which at all events will make a prodigious noise in the matter, is desirous that the murderer should be given up to them to be punished according to their own laws; whereupon couriers have been sent to Vienna and Berlin, so that the whole business may have far more important results than we can at present conjecture. If it is discovered that the deed actually emanated from Jena, why then it is evident that Weimar, at Russia's desire, is as good as occupied and administered either by Prussia or Saxony, that the University of Jena is a divided house, and that an entire change must be undertaken as regards the government of the German universities. By the way also, Russia has a notion of beginning war with Sweden. This was to be foreseen—for how can the advocates of legitimate rights be expected to tolerate the illegitimate Carl John? Russia's language will become the more arrogant and imperious, the more it takes note of the general fear pervading the cabinets. In conclusion, I shall not be able to carry out my design of coming to Jena. Ever your friend.

OKEN TO ECKER.

Jena¹ (without date, probably 1819).

Dearly as I love Freiburg, and readily enough as I would go there, it is at least a year too soon or too hasty to think of doing this. You cannot imagine what a drag I have upon me. Every week parcels go to and from Leipzig. The *Isis* brings me in at present more than any government could give me as a salary; so that I publish as a matter of course, my best views upon natural history. I must, by all means, keep this institute of mine going. In Freiburg it would be sure to suffer in any way, and if I were obliged to change my publisher, who alone knows the customers, why then all would be at stake. You may well imagine, that I must have contracted one debt upon another in former years, and these I have now begun to discharge, though I am far as yet from having made a clean bill of them. Thus from an economical point of view, the *Isis* must not be allowed to come to grief. As professor's fees, I am here in the receipt yearly of 700 or 800 to 1000 florins, which in Freiburg would amount to nothing. At present I am engaged in publishing a smaller or popular Natural History, for schools, educational establishments, etc.

If this last was issued from Freiburg, not a soul in North Germany would purchase it, and just because (strange it may seem, but it is so) a certain bad odour of bigotry cleaves to that town. This small Natural History must, therefore, be published here; and so also I must here let the second part of my larger Natural History be printed. I must, besides, look myself after the press corrections, and accordingly be near the printing-office, or nothing will be done in a proper or orderly way. Finally, I have had no call to Bonn, though I have received several friendly notifications of strenuous endeavours being made to get me there. The salaries

¹ This letter was, I conjecture, written in reply to one from my father, from Freiburg, dated February 12th, 1819, asking Oken whether he felt disposed to undertake the chair of Physiology in the Albertina College, but at the same time mentioning, as facts already known to him, that the salary was nothing very brilliant, nor the emoluments and college fees of much importance.

are 1500 thalers = 2700 florins. At present I have no great inclination towards anything Prussian ; yet still it would be downright folly for me to decline placing myself in such comfortable circumstances, as would enable me to pursue the sciences without any cares, and furnished, too, with the proper auxiliary means ; e.g. a Bonn salary and the *Isis*, together, would in a few years enable me to live quite independently. I would then draw nearer to you and live for the sciences at my leisure. You see that I never lose sight of Freiburg ; and am at present laying by my savings, as it were, to get there.

You may also imagine how terrible it would be for me to have no audience. As Freiburg now is, I should hardly get above a dozen hearers, and with so few one loses all spirit in lecturing. If, therefore, Carlsruhe does no more for the university, especially for the library and collections of all kinds, if in appointing professors who are worth anything it does not pay them so that they can live with a certain amount of comfort, no good will come out of all this. And what would become of me if, in this respect, I were to indulge in any vagabond longings ? Those who openly pursue the Natural Sciences and Physiology in Freiburg are obviously too few in number, Ittner being the only one who does anything in Chemistry and Wücherer alike in Physics. Nothing is done for Zoology, Botany, Mineralogy, Mathematics and Astronomy. What is one to do ? In medicine no one does anything except yourself and Schaffroth. It is plain that there must be more professors, and men, too, who will bestir themselves ; or otherwise everything must go to sleep, as I also should do if I had been there some years. If, therefore, no hope is to be had from the Government, pray let me remain where I am with strangers amongst whom I have at least the means and opportunity of doing something. Nevertheless you may rest assured that I would gladly and contentedly come to Freiburg, which can, if it will, become a stirring and active university ; so do your best in that way to bring me over to you and I shall for certain feel very thankful.

Give my kind regards to Professor Wanker, whom I have reason to respect as a kind of second father to me, and affectionate greetings also to Herr Hummell, who has done me many kindnesses, and also to Schmiederer.

The whole matter, as it now stands, I must leave to Providence ; and must at present follow the bent of external circumstances. Rest assured that your friendly feeling and action in my behalf, have touched me exceedingly. It is a great comfort to be so acknowledged, regarded and treated in such a friendly way by one like yourself, who is so distinguished for his scientific knowledge and fulfilment of the noble duties of this life.

In you I have seen at once an example of how the sciences may be taught with knowledge, feeling, and ability. May you long continue to be as beneficially active for the university, as you have already been for twenty years and more.

With the highest esteem, yours,

OKEN.

ADALBERT VON CHAMISSO TO OKEN.

— 1820.

Cantherius in portā. You have, at my very entrance into the scientific world, picked an ugly hole¹ in me, my most treasured professor, and I cannot avoid sending to you what I meant to say in my fit of indignation ; but stay, I mean to accompany this with a hearty squeeze of your hand (and pray, do not draw yours back), for I am but a student who means honestly as far as he will or can, while with the straightforward assurance of my downright esteem, I remain your most devoted servant.

OKEN TO SCHELLING.

Jena, August 31st, 1823.

The bearer of this, student Hodes (at a later period prosector and *privat-docent* in Zürich), who has formerly studied here, and whom I have every reason to regard as being a clever young man, seems to be suffering from want in Erlangen. Give him, therefore, in my name, some money for food and lodging, say, about fifty

¹ Reference is here made to the criticism in the *Isis* of 1820, of the treatise by Chamisso (*De animalibus quibusdam e classe vermium Cinnæana, etc. De Salpa.* Berlin, 1819).

gulden. If you can provide for him or do anything else, I feel sure you will do it ; but meanwhile it occurs to me that no time should be lost by him while instructions are being given to others as to further help. I thank you much for every kindness which I have received from you. If I do anything now for poor students, I am but discharging many an old debt.

OKEN TO ECKER.

Jena, January 18th, 1824.

HONOURED TEACHER AND FRIEND,

As I have something to send to Freiburg, I take the opportunity of begging you, in the most private and confidential manner, to say what you think as to certain plans which I may probably entertain. On the present jubilee in honour of our Grand Duke's rectorship, sundry attempts were made here by different moves on the part of the Government to give me back the professorship. I put no faith in all this, seeing that the Grand Duke is very angry at my having on a former occasion given the death-blow to the alternative of either giving up the *Isis* or the professorship, by throwing overboard the latter. In case, however, matters should turn out otherwise, just because the ministers seem for some time past favourably disposed towards me (at least judging from their intimations), such great obligations would be imposed upon me, that I could not, for many years to come, without seeming ungrateful, leave the place. I therefore ask you, whether in the event of a post falling vacant at Freiburg, and you were to offer it to me, you have any well-grounded conviction as to whether or no the Government in Carlsruhe would consent to this ? Are you acquainted with any declarations of the ministerial members that might lead to one's drawing any certain conclusions upon the matter ?

Let things turn out as they may, still my plans grow riper from day to day of going of my own accord into South Germany. I had it once in my mind to go to Würzburg, just because many of the doctors and professors are favourably inclined towards me ; but, could one only be sure of the Baden Government not being opposed to my giving lectures in Freiburg on my usual subjects

(apart from holding there any appointments), why then it is self-evident, that I should prefer that town, as I have always felt myself more and more attracted to my beloved university.

I beg you will send me some information upon this matter, but please keep it quite secret, partly on account of my residing here and partly because I do not as yet know when it will be possible for me to carry out this plan.

With the heartiest wishes for the health and happiness of your wife and dear family, to whom I have so much reason to be grateful, I wish you every prosperity in this new year.

Yours,

OKEN,

OKEN TO RINGSEIS, IN M^UNICH (1826-27.)

Jena, March 25th, 1826.

I was always convinced of your friendship and that you would avail yourself with satisfaction of any opportunity that might occur of doing me some kind service ; and doubt not that you take for granted the same feelings upon my part. What could be more agreeable to me than living and working in a country, which is cared for by a King so full of learning and kindly disposed to the cause both of science and art. I have always set great hopes upon this man after having seen what he did as crown prince for art, and heard from yourself and Cornelius with what zeal he devoted himself to the sciences. I thank you heartily for what you have done, and think that we may now wait and see what more comes out of it.

FROM THE SAME.

Jena, October 25th, 1826.

You will have already received my heartfelt greetings through Herr Marcus. I sent a letter to him touching the interests of a third party. [Oken here recommends Professor Münch of Freiburg to a professorship in Bavaria, and then proceeds to say.] You will have already learnt how pleased and contented the Society of Naturalists and Physicians were in Dresden. I am glad that

the Association is to take place next year in Munich. Though this is not quite in order, as it has already been held in Bavaria ; still every one was in favour of it, as being filled with enthusiasm for the King, and a wish to see the treasures of Munich. It seems as though the gathering of learned men would be a large one.

I write you nothing about myself as you know all and will not only do what is fitting, but send me word as to what I may require to know.. Meanwhile, Marcus will have plenty to tell you.

FROM THE SAME.

Jena, January 24th, 1827.

I hardly know how to thank you for the prompt and affectionate way in which you have used your opportunity, and what shall I say in return to the King for his gracious and friendly dealings towards me—No? It were foolish to linger for a moment about what I have got to do. So come I will and lecture during the next six months. I send you my petition, as I don't wish any one to know at this post-office (where owing² to the smallness of the town every circumstance that concerns you is known and every step you take found out), that I have been writing to the King. I also beg of you to request an answer and forward it to me under cover with your seal annexed. Query, will they give it to you? As an extra superfluity I append an authorization for their doing so.

A word of kindest thanks in the name of my wife to yours for the careful account you have sent me of household expenses in Munich. But pray, do not take any steps about lodgings, as it will be scarcely possible for me to get away at Easter with all my bag and baggage. I have much to set in order beforehand in the way of "weeding out" my library and disposing somewhere by auction of the cargo of copies of the *Isis* which fills an odd corner of my study, etc. ; in short, I will come at first with only my most necessary books, and if I bring my wife and children with me, will go, to begin with, into furnished rooms as near as possible to the theatre where I shall have to lecture.

I cannot tell you how very glad I shall be to see you all again, my good friends, and be enabled to work in the great collections

and library, especially as I am now preparing the second edition of my Natural History. With your answer to this, send me a prelections-catalogue, and tell me in a general way what one will have to do in regard to the lectures to be given. Kind regards to your good wife and greetings to Cornelius.

OKEN TO FRORIEP.

Munich, December 25th, 1827.

At last I can tell you, what you have already heard perhaps, that I have been appointed Professor of Physiology, with a very meagre salary (of only eight hundred florins), though with a *large* expectation of something better. I have become at the same time, an Academician, which, as you know, brings me in nothing. And so matters, which you have laboured so earnestly to bring about, may go on, and, although I cannot say they give me much pleasure, I am still contented with them. I am, indeed, worse off here from an economical point of view than in Jena, for though provisions are cheap, the general expenses of living are higher. Meanwhile, I can again be actively employed, and that is the chief point after all. I also take this winter more fees than I did during the past summer, as I have got two privatissimas to instruct. But, meanwhile, this is no more than I actually want. What I am most pleased with is the great industry of the Bavarian students. They flock by hundreds into the colleges, though none of these are open gratuitously. As to the social conditions here, they will not improve. A professor's club was indeed instituted, but there were seldom more than half a dozen to be met there, and these usually bachelors, so that this entertainment turned out very wearisome and will soon come to naught.

The King has received me very kindly, and so also have the ministers, though with their best intentions they cannot do much, seeing that economy is the order of the day and prevails over every branch of the administration, including even the *cultus* or public worship.

Anything great is not to be expected to come out of an university, where a professor of physics gets only one hundred and

fifty florins for his experiments. However, one can but look forward to better times.

FROM THE SAME.

Munich, July 31st, 1828.

Although I have nothing particular to write about, I will nevertheless make some signs of life and tell you that I and my family are in good health and content upon the whole with things as they are. I lecture at present to three colleges, which takes up all my time from any other work. Next winter, however, I look forward to the needful interval of leisure, as I shall only lecture then to one college.

It is not to be denied, that the Government gives the professors every possible assistance ; but, what with want of money, or rather its application to wholly unproductive purposes, little can be done. Many thousand guldens are lost in payment to men, who are not even on the spot or at their posts (as e.g. Sömmering, who is in Frankfort, R—, in Mayence, Wagner, in Rome) ; and besides this there is a prodigious government *personnel* and *matriel* to be paid for, besides many useless men who are good for nothing as teachers. My journey to Berlin lies at present far from settled. The ministry has indeed made a proposal to the King to send three professors to the Natural History Association there, but no answer has as yet been received. Yet no one doubts of permission being granted. Everything here is turned into a plea for begging money from the Government ; and whoever will undertake a journey into Baden expects his expenses to be covered from that source.

JOSEPH VON LASSBERG TO OKEN.

Eppishausen, December 18th, 1828.

In the hope that you and your worthy family may still remember kindly the pleasant hours which we spent six years ago together in Arau and Basle, I here venture to bring myself again to your recollection. I heard with the most hearty sympathy of your appointment in Munich, and wish the German fatherland every happiness in having one of its most important chairs of instruction

occupied by yourself. May your merits in behalf of the sciences be as loudly and universally recognized as they are already in foreign countries. As concerns myself, I live quite content with my lot in one of the most smiling corners of Thurgau, solitary indeed, but peacefully and in yet more peaceful communion with the ancient history and literature of our people—which, though known to but a few, is yet loved and treasured by more than one person, and with that feeling I am content. Meanwhile comes a time, “*dum subeunt morbi tristisque senectus*,” and even to this I look forward with rest and composure as to the end of all ends. Fare thee well, and be happy, heartily honoured by your most devoted friend.

G. CARUS TO OKEN.

Dresden, January 20th, 1829.

Your letter has given me proof of the interest you take in my researches on the Urtheilen der Knochen, or primary parts of the Osseous System, and I return you my hearty thanks. How glad I should be if you could give a detailed notice of the same work in the pages of your literary journal; for, considering the years which I have spent with much industry upon this subject, I feel as though I might lay claim to having my hopes in this respect satisfied.

As regards your postscript about Goethe's priority, I can, of course, in giving an historical sketch, only abide by what has been printed, and in this way the matter stands as I have given it. Is it possible for Goethe to have really uttered a falsehood in order to appropriate to himself the honour of the idea? Be that as it may, I have distinctly shown that all open declaration of the subject has proceeded from yourself. With sincere regards,

Yours,

CARUS.

OKEN TO C. E. VON BAER.

Munich, September 3rd, 1829.

Your letter has recalled to my mind, in an agreeable manner, the friendly relation that has existed between us for many years,

M

although the motive you had in writing it proves to me that you cherish an erroneous opinion as to my views concerning the literary conduct of scientific men. Be assured that I take it ill of no one, if he runs counter to my opinions or principles, provided only that this is done as one might expect in a becoming manner. I make use of the same right, as you have seen from the notice given of your book. I cannot, however, conceal my surprise at what you say in your letter of having written against Meckel's views and not against mine; for hitherto I have really believed in good earnest, that all views such as Meckel has set upon the "tapis," owed their origin to me, and I have also given all scientific men the credit of being of the same opinion, especially those, who remember my earlier writings. If one gave heed to what Meckel says, he was the first who entertained any thoughts about the vertebral structure of the cranium, not to mention the transitional passage of whole classes of animals through the embryo and inversely, as also about the entire animal and vegetable kingdoms being nothing else than the substantial development of the animal and vegetable body in its totality. Now, I have never thought it worth the trouble to speak openly upon these matters; and yet it would seem almost as though this were necessary, or otherwise, after the lapse of a few years, I shall not dare to write about what may be called my own property, without incurring the risk of being looked upon as a plagiarist. My earlier essays are catalogued at the end of my large work upon Natural History. That much is deficient in them may be readily understood by whoever bears in mind that my "Theory of the Senses," and of "Generation," were actually written by me when a student; and you also will understand how easy it must be at present when these ideas have become generally accepted, for any one to pick out particular parts as incorrect, while at the same time, the doing this does not affect the principles themselves. But enough of all this. As regards Hamburg, I do not doubt the Association will go there, and at all events, no efforts to that effect shall be wanting upon my part. Accept, meanwhile, the assurances of my friendly feeling towards you as being unchangeable.

SCHÖNLEIN TO OKEN.

Würzburg, March 15th, 1830.

You will wonder, my dear friend, and perhaps be very indignant that, after my first invitation to you to come to us, I omitted to send you any further intelligence touching a business that so closely concerns the welfare of our university. I was desirous, however, to bide completely the course of events, before making any new call upon you, and, while laying the counters upon the table before you, put you in a position to play out the game to your own best advantage. So listen for a moment and I will tell you how the accounts stand.

I will tell you quite openly, as befits our mutual friendship, what you have to expect here. May Heaven grant that these statements please you, and that you will decide upon extracting from the minister a translation to Würzburg. I cannot withhold from you what was declared in the ministerial council to the effect, namely, that his Excellency would not in this respect run counter to your wishes.

As salary, the university fund will barely be able to offer you more to begin with than twelve to fourteen hundred florins ; but upon the other hand, I think I might promise you an equal income in "honoraria," and one which might exceed the above sum, if you were to give lectures upon Physiology and Comparative Anatomy. I have myself, for example, taken in the last semester for two courses of lectures fifteen hundred florins. Then, again, you must not leave out of calculation the fact that living is proportionately much cheaper at Würzburg than in Munich. And now having settled the first question, "primum est vivere," or how first of all to live, let us take a glance at the sum total of advantages. That nothing, absolutely nothing, is done for the sciences in München, you will readily enough acknowledge, and will accordingly lose but little by turning your back upon that town. You will not, however, be disposed to admit that in this respect matters will fare better with you at Würzburg. The cabinet of natural objects is truly wretched ; but, under your direction, it would soon emerge from out the state of nothingness to which selfishness and ignor-

ance have reduced it. You would, besides, more easily reap the honour of having raised the character of the collection to a rank befitting the sciences, as the funds for its support are by no means contemptible ; and numerous scholars of the university, located in the most distant quarters of the globe, have already declared themselves ready and willing to send, as far as they are able, specimens of natural objects ; even now there is no small number of objects from Mexico and the East Indies, which are mouldering away for want of being looked after and properly arranged. And then only take a look at the theatre for dissections, which may be fairly put upon a par with any other in Germany. A good roomy house with garden and outhouses (for experimental Physiology) a special prosector and servant, besides six hundred florins annually for real expenses, and what more would you have? It is true that at present Münz is charged with the office of director, but as he has little liking for zootomy, it will be no very painful job for him to give up the management into better hands, and it will cost you but little trouble to get this resignation of his conceded by the minister. The only objection, which you might with any show of good reason bring forward, would be against the library. But even since you were here much has been changed to its advantage, and you may believe me when I tell you that the librarian, Goldmayer, will far more readily spend the two thousand florins yearly at his disposal in providing for the different departments of natural history, the less he is bored and tormented by the claims of theologians, jurists, and the whole kit of philosophers.

It is to be hoped that these feeble suggestions of mine may, by showing the advantages of Würzburg, turn your decisions in that direction. For this is the earnest wish of your numerous friends, among whom I am proud and glad to count myself.

FROM THE SAME.

Baden in Aargau, Feb. 20th, 1833.

I do hope, my dear friend, that this letter will please you better than the former one. How could I guess that your Zürich friends had left you in ignorance of all those things which you desire to-

learn from me ? or, do you yourself doubt their statements ? If so, then you were quite in the wrong ; for Nägeli, Hirzel and many among them are your enthusiastic admirers. You need not wonder or feel provoked at some opposition being presented to your "call" ; for you know the influence exercised by families in small free states, and even Zürich, which shuts itself up against strangers as though it were a miniature China, could not change its nature at once. One must be reasonable in one's judgment of such manifestoes. I cannot find out that any one has been intriguing against you from München. It is only Schinz who would have liked to have got your place, but at present he is contented with the Upper School of Industry, so that you need not expect or dream even of any further hindrances from one who is really a very kindly little man, but like all his countrymen, makes a good deal of opposition to a matter whilst in progress, but readily adapts himself to it when it has become by law established. Taken altogether, the objections of the opposition were not of any great weight. All that was brought forward was to the effect of your finding everything in Zürich upon a small scale, that the collections would not suffice you, and that therefore you would make requests which were beyond the means of the town to satisfy ; that in this way open complaints would proceed from you, and so the institution fall into discredit. You see now how very easy it is for you, and how it rests with you to drive your enemies from out the field. I can for your comfort inform you that there are but few opponents to the arrangement of the High School, these being chiefly military men formerly in the service of Holland and France, but all endowed with so much patriotism as, upon any decided and legal occasion, to use every exertion to promote the prosperity of the institution. In addition to Löwig, lectures will be given in the forthcoming or at the latest in the second semester by the circumnavigator Horner upon Physics, Linth-Escher upon Geognosy, Hegetschweiler and Schultheis upon Botany.

As I am stopping at Baden for a few days in order to make use of the mineral waters, I have sent your letter on to Orelli, in order that due attention may be paid to your proposals in regard to the university statutes. Upon this point I am quite in accord with you. Adieu and a speedy welcome in Zürich.

FROM THE SAME.

Zürich, March 4th, 1833.

I have, my dear Oken, for various reasons and curiosity among the number, transported myself suddenly to Zürich, as being the future scene of our joint action. My fears and anxieties were not a few ; but, happily, a few days here have sufficed to disperse them. I do not wish to speak of my reception (which has surpassed all expectations), but only of the men with whom one has to deal, and of the matters about which we have got to be busy. As regards the university, all of whatever colour and complexion are favourably disposed. The authorities, resting upon an immovable basis, and animated by the most fervent zeal for their new institution, will encounter no, or but a feeble, opposition to their measures. The elections, whose results I first of all learnt here, have fallen upon men from whom one may expect a friendly college feeling and a hearty spirit of scientific co-operation. The hospital is already well adapted for giving good clinical lectures, and means are in abundance for doing something first-rate there. Every one thinks of you with pleasure, and wishes for your advice in framing laws for the students and for the organization of the business of the senate and faculties. Do not let us wait too long for you. Anything new in Munich ?

LOUIS NAPOLEON TO OKEN.

Arenenberg, August 20th, 1837.

MOST HONOURED PROFESSOR,

I have, with the greatest satisfaction, received your worthy letter, as also the continuation of your book, and return you my heartiest thanks for them. It is always with joy and due recognition that I receive the opinions of men for whom I feel friendship and regard. I must tell you, however, that what I wanted to do with France, was to make a kind of galvanic experiment just to see if the body of the nation was really dead or not. My attempt (although by an unfortunate accident, it has turned out unsuccess-

ful), has yet served to show me clearly and distinctly, that the old life has not yet evaporated, and requires only an electric spark to make it recover its former strength and glory. I beg you to give my most courteous respects to your wife and daughter, and meanwhile, to accept from me the assurances of my highest respect and friendship.

NAPOLEON LOUIS.

JOSEPH VON LASSBERG TO OKEN.

On the old Mersburg, Lake of Constance, July 7th, 1840.

CLARISSIME OKENE,

My daughter-in-law, Helen, the afflicted widow of my dear deceased Fritz (Government president in Sigmaringen), sends you through me the posthumous work of her husband, as a token of recognition and thanks for all the love which during his short life you bestowed upon him. We have now, thanks to the exertions of our new editor and his staff, a Suabian paper which we can use; for the few former publications of this kind were ill printed from wretched manuscripts. A few days ago I returned from Freiburg, whither the duty of a friendship called me which had been undisturbed during more than fifty-three years. Our Hug desired me to visit him once again, and I remained nearly a fortnight with him. His health is much shattered, and the three-quarters of a century which he has upon his shoulders begin to press not a little heavily upon him. A cough, giddiness and constant expectoration, will gradually wear him out; for, contrary to all the suggestions of his friends, he cannot be induced to give up his daily colleges, and as little could I persuade him to withdraw for some time into a warmer land and milder climate. He intends to die like a brave warrior upon the field of honour, and the same lot which has befallen his friend and fellow collegian Ecker awaits him also. You may well imagine, my worthy friend, that I left him with a troubled heart and with but feeble hopes of his recovery. With ourselves, on the other hand, in the old Dagobertsburg, everything goes on well and prosperously; the two Hildas thrive admirably both in body and

soul, are well grown, strong, and happy throughout the live-long day. We live upon our rock, not indeed like the holy Gregory upon the bare stones, but are well-nigh just as lonely ; yet contented withal, and troubling ourselves but little with the external world. May things turn out as well with you and your belongings. My wife along with me sends greetings to you all. In Freiburg I saw Frau. v. Ecker and Lotte Ittner, who dined with me once at Hug's, and Lotte, one day, went with Hug and me at noon to the Suggenthal near Waldkirch. She is well and thinks of stopping some time in the beautiful Breisgau. Iterim vale et fave.

OKEN TO C. E. VON BAER.

Zürich, August 27th, 1841.

I write to you, though it may probably be too late for my own object, but by no means for giving you once again a friendly greeting, and thanking you for the frequent and friendly mention made of me in your writings ; and finally to congratulate you on having surmounted the many dangers which you have endured out of love for science. Your revelations as to the natural history of Lapland and Nova Zembla, will certainly meet with acknowledgement, and, although the gains to science, as is readily understood, may not be great, it is still something to know how matters in that respect actually stand. I have always marvelled at your great activity, and just lately, too, when you ought to cease exposing yourself to any rude tempests. It grieves me to think that you are gone out of Germany, though you may have had good cause for taking this step, in so far as it might be supposed that your crossing the frontier had been due to neglect on the part of the ministry ; but as it has obviously been a deeper concern with the King, you should not, in my opinion, have taken things too much "au pied de la lettre;" and should have remained where you were. One must, as a general rule, do what renders life active and agreeable, and not trouble oneself too much about the tricks which others play upon us. It is to be hoped that all goes well with you at present, and this I wish you from my heart. As you have such a great predilection for icebergs, you should really visit those of Switzerland, and take us by

the way at your convenience. We promise to take you often with us into the beautiful country round about. I have noticed your books by degrees in the *Isis*, as you will have already seen. Such notices are, of course, but brief, partly on account of the subject involved, and partly because I have not had time enough for saying more.

We are upon the whole in tolerably good health, and despite the restless character of the times, live very peaceably, simply because we trouble ourselves about nothing. In all friendship,

. Yours,
OKEN.

JOSEPH VON LASSBERG TO OKEN.

Upon the old Mersburg, April 21st, 1846.

CLARISSIME ET CARISSIME OKENE,

I have been deeply grieved at the death of our good Leonhard Hug, with whom I have lived for nearly fifty-nine years in unbroken friendship ; two weeks afterwards, died also the last friend of my youth, Privy Councillor Geber, in Esslingen, so that I can truly say : I have outlived my world. Morexit ! Hug used to say, when one of us left our circle for his long home; morexerunt, I now say, and soon it will be said of me also, morexit ! One thing only I hope and wish for ; ut testatus exam : boham conscientiam me amasse, bona studia, nullius libertatem per me imminutam fuisse, minime meam !

The Antiquary-association at Baden has sent me the programme of two parts of its treatises in which occur reports upon Roman structures at Oefingen and Hausen vor Wald in der Bar. More than thirty years ago I pointed out a line of streets which must have reached from the valley of Bregach von Hüfingen to Hausen, and then direct past Fürstenberg over Hondigen to Randen ; the cement of the roads near Loretto is still Roman. Views and plans of the Heidenlöchen at Goldbach by Ueberlingen, are yet to come, and then a treatise upon the Roman inscriptions of the Grand Duchy.

Will you not make an excursion this summer, and if not on the cars of Thespis—yet anyhow by the slow-going coaches ? or at

least come to the shores of the Acronius? into the old Marzipolis? We are all well and hope to hear the same news of you. Fare thee well, and may all good spirits keep guard over you.

Your old friend,

LASSBERG.

OKEN TO HENRICH VON GAGERN.

Zürich, December 16th, 1848.

You are, no doubt, so burdened with appeals, that one ought to spare you the infliction of any more of them. But as no one has given utterance to the following opinion, and I intend to be as brief as possible, I venture upon here laying it before you.

It is acknowledged by all that Austria, if separated from us, would become a Slavonic and, to us, hostile state. A union of the two countries is in my estimation only possible, if in case of war the whole of Austria be one with Germany, so that the two kingdoms, in case of hostilities arising from any quarter, may be marshalled under one command. In this case it is self-evident that only some one of the house of Hapsburg can be Kaiser. The new Government of the King of Prussia will serve to deceive no one who has read the terms of the previous one, and Simon's commentary upon it.

You are the man who can do something, who possesses the people's confidence, and may Heaven preserve you for the good of the fatherland.

OKEN TO THEODORE WELCKER.

Zürich, January 1st, 1849.

The serious prospects as regards the future presented by our fatherland grieve me so much that I cannot refrain from again speaking to you about them. The storm that has been raging in Frankfurt is so fearful, that one may well despair of the deliverance of Germany if it is not soon allayed. It is obviously nothing but an outbreak of seething passions, interests, and conceits, and is by no means a conflict springing from rational principles; for it is impossible that any doubt should subsist as who ought to be Kaiser.

It is evident that he alone who has held the post for nearly six hundred years has any title to this, namely, a Hapsburg. If it had not been for the struggles of Austria, one-half of Germany would have been an appurtenance of Turkey, and the other of France. Without Austria, Germany cannot withstand the French thirst for conquest, and has always held the Hungarians and Croats as indispensable for that purpose. How, then, could the bare thought have originated of separation from Austria, unless violent passions had suppressed all calm consideration of the question. Besides, no Hapsburg has ever betrayed Germany and sold portions of it to strangers. The intimate union of Austria with Germany is only possible, when we have again a Hapsburg as Kaiser ; for then alone will its non-German levies be employed for the defence of Germany, while at the same time, in protecting itself, the rank of the Emperor or Kaiser will be maintained. So soon as any one else were to become Kaiser, everything would fall to pieces ; for such an one could not marshal the troops of his confederate provinces under one German rule, as, in such a case, these provinces would be the most unlucky in the world ; for their troops would have to carry on a double war, one in behalf of Germany against France, and the other for Austria against Russians and Turks. For this very reason all wars, from whatever side they may happen to come, must be carried on conjointly as has been in the long run the case in former times ; all that is required of Austria is, along with its German provinces, to set about the Government of Germany, and this, of course, is a necessary result, if a Hapsburg should become the Kaiser.

As to whether it is necessary for the Kaiser of Austria to be Kaiser of Germany, or whether the latter might be a Saxon Duke, I am not in a position to give any distinct opinion. As regards my own personal feelings of esteem and affection, I should decide in favour of the Duke John of Saxony. I believe, also, that the other princes would raise but little opposition to his election, and that Austria would have the same interest in protecting him in Germany as if both thrones were joined there into one. This I think would not be of any great importance, and might be left to the chances of an election.

You yourself, after many vain struggles, have finally reached

a position in which you have already done, and may hereafter do, good service to the fatherland. I do not know exactly what your views are about the elective Emperor, but imagine that they do not differ so very much from my own, as to prevent you from giving them a kindly reception, and so bringing me back again to your friendly remembrance.

With hearty New-year's greetings to yourself and family.

Yours,
OKEN.

REPORT OF
THE STUDENTS' FESTIVAL ON THE WARTBURG.

(*Isis*, 1817, No. 195.)

In accordance with the gracious permission of his Highness the Grand Duke, the authorities and citizens of Eisenach, having made every arrangement for rendering the students' gathering cheap, comfortable, and agreeable, quarters were appointed them for three days, 17th to 18th October, the hall at the castle adorned with garlands, and tables and seats provided for seven to eight hundred men. Such was the number reckoned as present at dinner on this triumphal occasion; for they came from Berlin, Erlangen, Giessen, Göttingen, Halle, Heidelberg, Jena, Kiel, Leipzig, Marburg, Rostock, Tübingen, and Würzburg.

On the 19th, the students all assembled about 9 a.m. in the market-place; went up to the castle with music and banners flying, and we ourselves along with them. Among the professors who took this festival to heart, who saw in it the germ of fruitful results, and had therefore come of themselves to take note of what amount of success might be expected to ensue from all that took place, four were from our university, namely Fries, Kieser, Schweizer, and myself, and to us was appointed a place confronting the spokesmen upon the occasion.

Silence having been insured, one of the students spoke much as follows. He called attention to the object of this meeting of educated youths from all parts of the fatherland; how misdirected had been the life of the latter hitherto as regards the idea of an

united German people, how many hopes had been blighted and deceived ; he then alluded to the students' destiny and the expectations which the fatherland had of it ; and to the miserable and destitute condition of those who devoted themselves to the acquisition of knowledge ; and, finally, how if any order, rule, and good habits were to become a heritage of the student-class, earnest and mutual attention must on their part be paid to the ways and means by which their destiny can be fulfilled in such an honourable manner as would bring grown up people, who had unfortunately no further object to attain, to feel kindly and encouragingly towards them, so that they might become in relation to them what they wished. Upon hearing all this, those present, and, we among the rest, were moved to tears—for very shame that we had not done what we ought, for very grief that we were the cause of so much sorrow, and for joy withal that we had so educated our sons that they it was who were doomed at some future period to achieve what we had held in derision.

Other words were spoken by one or another student of a cheering kind, and then they all went to the castle court until the tables were laid. They then formed themselves into groups or crowds, some moving about, others standing still, just as we see done in churches, only here in a friendly, sociable way. Every one was filled with enthusiasm, every one felt himself disposed to fraternize, be reconciled and be at one with his fellows. A great number of human beings work mesmerically upon each other ; they become impressed with a feeling of impotence as individuals, of strength as a body, while a voice speaks in language irresistible to the soul, that in the *sum total of Humanity alone is salvation to be found.* Thereupon was delivered the following address :—

OKEN'S ADDRESS TO THE STUDENTS AT THE WARTBURG
FESTIVAL.

MY DEAR FRIENDS,

The present is a moment for cordial sympathy and harmony of spirit, such as you must not suffer to pass vacantly away. It will never come again, and *now or never* will you become an united body.

If great opportunities are left to pass by unheeded by one who is in quest of them, they will soon turn upon him like avenging fiends, as though he had done them some injury by his disregard. You must not rest satisfied with mere sympathy ; you must suffer no one to leave the castle without taking along with him some solid matter-of-fact impression of all that he has seen or heard. For if such be the need of a man, still more is it that of a youth, and, above all, a student. Let us suppose him to be on his march home, and that he has laid himself down to rest along with three or four other comrades, tired and, perhaps, cold and wet. What does one say to the other ? " Well, what of all this, what have we got for our trouble ; are our relations other than they were before ; are the country communities done away with ; are we the members of any larger society ; do we form an association of students only at our own university, or are we collectively but a solitary member of the whole German Bürschenschaft ? Have we done anything to knit ourselves together, framed any laws or regulations ? " And lo ! every one fumbles in his pocket again and again, if so be he may find anything, and at last lies down for the second time, cold and out of temper, to rise up the following morn full of vexation, and then wander full of shame out into the old wilderness of a world, and so back to his own home.

It is clear, then, that you must put something into the student's pocket. A few laws only ; telling them plainly that all students are but of *one* heart, that they all belong to a *single* community, namely, the *German*, and that they have all to observe the same commands and customs.

But how, you will say, is this to be begun ? Many among you are still in special bonds, and many are now here who bear a mutual spirit of animosity one towards the other, and no one will conform to the rules or laws of another. This is especially the case with you lads of Giessen, Erlangen and Göttingen. But think only for a moment and weigh well what a student really is. Make it clear to yourselves that, from the very instant in which you have decided upon a career of study, the whole of Germany lies before you, as it were with open arms. The university man, no matter from whence he may hail, can find his business and employment in Austria, Prussia, Bavaria, Hanover, Saxony, Suabia, Franconia,

Thüringen, Hesse, Mecklenburgh, Holstein, in the Rhine districts and even in Switzerland. He speaks no longer the dialect of his own village or town ; he does not merely understand this or that handicraft such as might fetter him to a certain workshop or bare plot of land. No ! he is a citizen of the universe. Shame be it if we have brought our studies to no higher pitch than remaining a Thüringian, Hessian, Suabian, or Rheinlander ! Shame, too, if we can imagine ourselves as having become nothing more than a provincial. Would you prefer to speak a provincial dialect or live according to provincial rules? No ; you would blush if any one were to ask you as an university man such a question. If, then, the student is not by nature a provincialist, it is unnatural to try and constrain him by any artificial arrangement. So that we have nothing to do with his passing over from one community to another. White has not got to be made black nor black white, Bavarians turned into Franconians, Wildhessians into Althessians, Thüringians into Suabians, or Mecklenburghers into Livonians ; but you have simply to become by your arrangements what you all as students should be, *cosmopolitan* or *universal*. Still, this universality does not extend over the whole world. You do not learn at the universities to ape the habits and knowledge of the French, English, Spanish, Russians, or Turks ; but what you really would and may become, like the rest of the German people and its princes, is *nothing else* than educated Germans, who are all equal one to another and whose calling is everywhere free.

It is on this very account that you must not give yourselves any names that contradict this character of universality. You are not to be called white, black, red, or blue, for others may be as well thus nicknamed as yourselves ; nor even Teutons, for the same good reasons. Your name must be what you are in yourselves alone and exclusively, namely, a Bürschenschaft or students' association. To this you all belong and no one else. Beware, however, of carrying any badge that might sink you to any party-level or show that you did not understand how the position of the educated embodies in itself the whole State and is ruined by becoming split up into parties. Keep yourselves, too, from indulging the conceit of being the main-stay, props, and integrity of the fatherland. For Germany rests only upon itself as constituting a country whole and

undivided. Every human guild or corporation is but a member of that body which is called the State, and to the maintenance of which it contributes so much only as its rank or station admits of. Your calling is indeed to work in the future as parts of the head of the body corporate ; but, remember the head is weak, if the limbs and viscera refuse their service. At present you are but young, and no other business devolves upon you than that of studying how you may best thrive and learn, and not run to waste through idle habits, but by making common cause to this end and by troubling yourselves absolutely about nothing else, contrive so to keep steadily in eye the goal to which you must run. To you the State is at present a stranger, and belongs to you only in so far as at some future time you may become active members of it. You have not to trouble yourselves about what may or may not happen in the State ; your only business is to consider, how you are to act in future towards the State and how far you may have rendered yourself worthy of such responsibilities. In a word, all that you have to do, must now bear reference to yourselves, to your student-life ; and everything besides must be regarded as alien to your business and position—unless you would make your very beginnings a something ridiculous.

Then, as a rule, holding good in human history as well as nature ; cleave always to the bulk of the people ; the individual always succumbs when he runs counter to the whole community ; for individuals of necessity run a tilt at each other and go to ruin. Country communities chafe and fret their neighbours. But the Bürschenschaft can never of itself run to waste, so long as it remains *in toto* what the country-clique is only *ex parte*.

Weigh well, then, what I have said. Do not go astray from each other as you may have done in coming here. Make a few laws and give them to each one to take with him on his return home. A written word has a wonderful power ! And now, fare thee well, in the hopes of meeting you again, but not after so long an interim as three years.

The trumpet then summoned us all to dinner and a right merry one it was. The wine imparted strength to our feelings and to the good intentions that beamed from every countenance. Healths

were proposed which to us professors seemed hardly in accord with the spirit of the festival ; so we kept our own feelings locked up in our hearts.

After the feast, about three o'clock, the procession went down the hill, and hand and glove in company with the militia proceeded to the church where the sermon had a good general effect.

Upon this followed gymnastics in the market-place, until it got dark—and so every minute of the day was spent in praiseworthy activity.

At seven p.m. the students, to the number of about six hundred, each carrying a torch, went up the hill where the militia was already assembled. And there songs were sung and a speech made by one of the students, which we could not manage to hear, though it was generally admitted to be one of a particularly powerful character.

After this a bonfire-sentence was passed upon the following scraps which, being first exhibited to the crowd upon the top of a dung-fork, were then cast into the flames with sundry imprecations. About 12 o'clock all had retired to rest.

[Hereupon intervene in the text a series of "squibs" with comic illustrations, such as asses' heads, Jew-noses, etc., etc., symbolizing the series of articles burnt ; amongst which may be mentioned Kamptz' "Codex de Gendar merie," along with sundry effusions of Schmalz, Cöln, Janke, Ascher, Ancillon, Zacharia, and other political worthies ! (?)—Tr.]

The next day, before noon, the students again assembled upon the Wartburg, where much discussion was held as to the future customs of students, and especially the restrictions as to duelling. Those students of Giessen who had been severed in a hostile manner from each other by provincial jealousies, threw themselves into each other's arms and were reconciled. And so in a moment of free and sacred liberty, when the voice of youth alone prevailed to give advice, more was achieved than could be done by the court of Darmstadt with all its soldiers or the whole senate with its stuck-up periwigs ; nay more, that very moment had fanned the flame of hatred for such as these. If courts and senates know not how to deal with students, it becomes absolutely necessary that they should in a moment of desperation or, to use a more expressive word, of inspiration, seek to treat with themselves. The most per-

verted source of help is invariably restraint, and a regiment of soldiers will never and nowhere be tolerated.

Many of the students now set out on their journey home ; but many went to supper.

Such has been the celebration of the Students' festival at the Wartburg.

Many, who give advice about Germany, and still more, those who only talk rubbish, may well take to heart the gathering upon the Wartburg as a model for their future observance.

N.B.—If any students should happen to be prosecuted for having been at the Wartburg—let them send a report to me. We consider it to be our duty, on account of the orderly conduct that prevailed without exception, to defend such students, and will do so to the best of the powers which God has given us.

LIST OF OKEN'S WRITINGS.

1. Uebersicht des Grundrisses des Systems der Naturphilosophie, u. der damit entstehenden Theorie der Sinne. Frankfurt, a. M. 1802.
2. Grundriss der Naturphilosophie der Theorie der Sinne und der darauf gegründeten Classification der Thiere. Frankfurt, a. M. 1804.
3. Die Zeugung. Bamberg, 1805.
4. Abriss des Systems der Biologie.. Zum Behufe seiner Vorlesungen. Göttingen, 1805.
5. Oken und Kieser, Beiträge zur vergleichenden Zoologie. Anatomie und Physiologie. Bamberg u. Würzburg, 1806, 1807.
Part I. (1806), contains :
(1.) Oken's anatomico-physiological investigations, conducted upon the foetus and embryos of pigs, as also of dogs, with a view of solving the problem of the umbilical vesicle.
(2.) Development of the scientific classification of Animals.
Part II. (1807), contains :
(3.) Anatomy of three canine embryos, in which the intestines had just previously become detached from the umbilical vesicle.
(4.) A proof that all Mammalia possess the umbilical vesicle, (vesica-omphalo-mesenterica) and that the intestines originate therefrom.
6. Ueber die Bedeutung der Schädelknochen. Jena, 1807. Contains the demonstration of the homologies of the cranial bones to the vertebræ; for full particulars concerning which discovery, the reader may consult with advantage, Oken's paper in the *Isis*, entitled, Oken über die Schädelwirbeln gegen Hegel und Göthe. Part VII., 1847.
7. Erste Ideen zur Theorie des Lichts, der Finsterniss, der Farben und der Wärme. Jena, 1808.
8. Ueber das Universum als Fortsetzung des Sinnensystems, ein pythagoräisches Fragment. Jena, 1808.

9. Ueber den Werth der Naturgeschichte fur die Bildung der Deutschen. An introductory discourse to his lectures on Zoology. Jena, 1809.
10. Grundzeichnung des Systems der Erze. Jena, 1809.
11. Preisschrift uber die Entstehung u. Heilung der Nabelbrüche. Landshut, 1810; with two plates.
12. Lehrbuch des Systems der Naturphilosophie. First edition, Jena 1809-11, three vols.; second edition, Jena, 1831; third edition, Zürich, 1843, in one vol.
13. Lehrbuch der Naturgeschichte (Natural History).
 - Vol. I. Mineralogy. Leipzig, 1812.
 - Vol. II., in two parts, Natural History of Plants. Jena, 1825-26.
 - Vol. III., in two parts, Elements of Zoology. Jena, 1816.
14. Neue Bewaffnung, neues Frankreich, neues Deutschland; with two copper plates, and one coloured map of Europe. Jena, 1814 (*vide*: text).
15. Naturgeschichte fur Schulen; with four plates. Leipzig, 1821.
16. Esquisse du système d'anatomie, de physiologie et d'histoire naturelle. Paris, 1821.
17. Oken's Dienstentlassung (Judicial report of his dismissal from his post at Jena). Leipzig, 1819.
18. Ueber das Zahlengesetz in den Wirbeln des Menschen. Munich, 1828.
19. Allgemeine Naturgeschichte fur alle Stände, 13 vols. Stuttgart, 1833-41; with an atlas of plates.
20. Isis, or encyclopädische Zeitung (at a later period, simply Isis, von Oken), 1817-48; 32 yearly vols. Jena u. Leipzig.

The following contains a list of articles by Oken that appeared either in his own paper, the *Isis*, or in other journals; but it does not lay any particular claim to completeness. No notice, however, has been taken of quotations, criticisms, polemical fragments, etc., for reasons that may be well understood.

I. ARTICLES IN THE *Isis*.

- Verdeutschung (or rendering into German) of the terms Genus and Species, 1817, p. 235.
- Schneckenjunge ohne Begattung (or parthenogenesis), 1817, p. 320.
- Schwadenlaternen (or the phenomena of *Ignis fatuus*) 1817, p. 225.
- Aufenthalt der Meerwürmer, 1817, p. 466.
- Lumbricus marinus*, *Arenicola piscatorum*, 1817, p. 469.

Ueber die Bedeutung der Schädelknochen, 1817, p. 1204; 1818, p. 510; 1847, p. 558.

Nachtrag über die Entstehung der Därme aus dem Nabelbläschen, 1818, p. 59.

Bedeutung der Knochen der Krokodilschädel und der Nasenbeine der Vögel, 1818, p. 278.

Ueber die Farben der Blumen (colours of plants), 1818, p. 472.

Begriff des Muschelbaues (shell-fish), 1818, p. 1877.

Ueber die Bedeutung der Fresswerkzeuge der Insecten, 1818, p. 477.

[In this paper the author discusses the homologies of the several parts of the mouth in the orders, Lepidoptera, Hymenoptera, Coleoptera, etc., with each other and with the thoracic members, 1818, p. 477.—TR.]

At p. 294 of the first edition of his *Naturphilosophie*, 1809, and in all subsequent editions, Oken declares the *air* or *swim-bladder* to be the fish's lung. Subsequent investigations have proved the correctness of this homology, by showing how finally in many osseous species communication is established, either by tubular prolongations, or by chains of ossicles between the acoustic labyrinth and the air-bladder (Owen). To the "gifted" Oken also belongs the merit of discerning another homology, viz. that the wings of insects are in reality *aerial gills*.—*Vide* Owen, "Anatomy of Invertebrata," 1855, p. 355.—TR.]

Untersuchung des Eies (ovum) von *Lacerta vulgaris*, 1818, p. 405.

Bein-philosophie (Homologies of Bones), 1819, p. 1528.

Begattung (or method of coitus) der schwarzen Schnecken (or slugs), 1819, p. 1115.

Ueber *Pterodactylus longirostris*, 1819, p. 1788.

Entstehung des ersten Menschen (origin of the human race), 1819, p. 1117; with 2. figs., Plate xiii.

Vergleichung alter Sagen u. Ueberlieferungen mit Oken's Ansicht von der Entstehung des Menschen aus dem Meere, 1821, p. 1113.

Ueber das Athmen der Pricken (Lamprey), 1821, p. 271.

Ueber zwei in Deutschland reisende Chinesen, 1822, p. 417.

Ueber den Pariser Königsgarten, or anatomical observations upon the skeletons in the *Jardin du roi*, 1823.

Ueber einzelne Theile des Fischskelets, 1823, p. 448.

Ueber das Ei (ovum) und Zitzen (mammary organs) von *Ornithorynchus*, 1823, p. 1427.

Ueber den Bau des Bisambeutels (musk-pouch), 1826, p. 849.

Versuch einer Deutung der Schultermuskeln der Schildkröte, 1827, p. 456.

Ueber die Foetushüllen u. das erste Athmen, 1827, p. 371. A discourse delivered at the Scientific Association in Dresden.

Ueber das Zahlengesetz (numerical law) in den Wirbeln (*vertebræ*) des Menschen (man), 1829, p. 306.

Ueber die Aufnahme der Naturwissenschaften in die Gymnasien, 1829, p. 1225.

Entwickelung des Küchelchens in Ei, 1830, p. 575.

Ursprung des Aachener Metallklumpens, 1830, p. 1077, *a propos* of a molten statue of Theodoric.

Ueber die Römerstrasse von Windisch nach Regensburg, 1832, p. 1246.

Ueber die Richtung des Würzelchens und das Winden (climbing) des Stengels, 1832, p. 804.

Ueber den Steinbruch (quarry) von Oeningen, 1840, p. 282.

Ueber Lepidosiren, 1838, p. 347; 1839, p. 607; 1841, p. 467; 1843, p. 441.

Ueber Auson's Fische in der Mosel, 1845, p. 5.

Ueber die Streitaxte (war-axe), 1848, p. 1028.

Ueber die Bedeutung der Farren u. Moos-capsel, 1829, p. 395.

Ueber das Betragen von Proteus, 1832, p. 699.

Nachtrag zu Richter's Aussatz über den weiblichen Kuckuck'smagen, 1823, p. 225.

Ueber Proteus anguinus u. die durchgehenden Naslöcher als Characteren der Amphibien, 1817, p. 641, fig.; 1821, p. 271.

Ueber das Perlboot. *Nautilus Pompilius*, 1835, p. 1.

II. ARTICLES IN OTHER JOURNALS.

The function of the Tunica erythroïdes and the development of the intestinal canal. Götting. Gelehrte Anzeigen, 1805, II. p. 781.

Upon the nature of the insertion of inferior vena cava in the heart, *ib.* 1806, I. p. 612.

On the oviducts of Mollusca, *ib.* 1806, II. p. 473.

Upon the class-distinctions of the Invertebrata, *ib.* 1807, II. p. 161.

Pharmacology as a Science. Schelling's Jahrbücher. der Medicin als Wissenschaft, Vol. II. p. 75, 94, 1807.

Ueber den Athmungsprocess des Foetus (foetal respiration) Siebold's Lucina or Obstetric Journal, III. 3, 1806.

Description and dissection of a foetus of *Bradypus torquatus* (in Prince Max v. Neuwied's contributions to Nat. History of Brazil, Bd. 2, p. 496).

Comparison of the skulls of *Bradypus torquatus* and *tridactylus*, *ib.*

Newton's first demonstration of the different refrangibility of light rays,

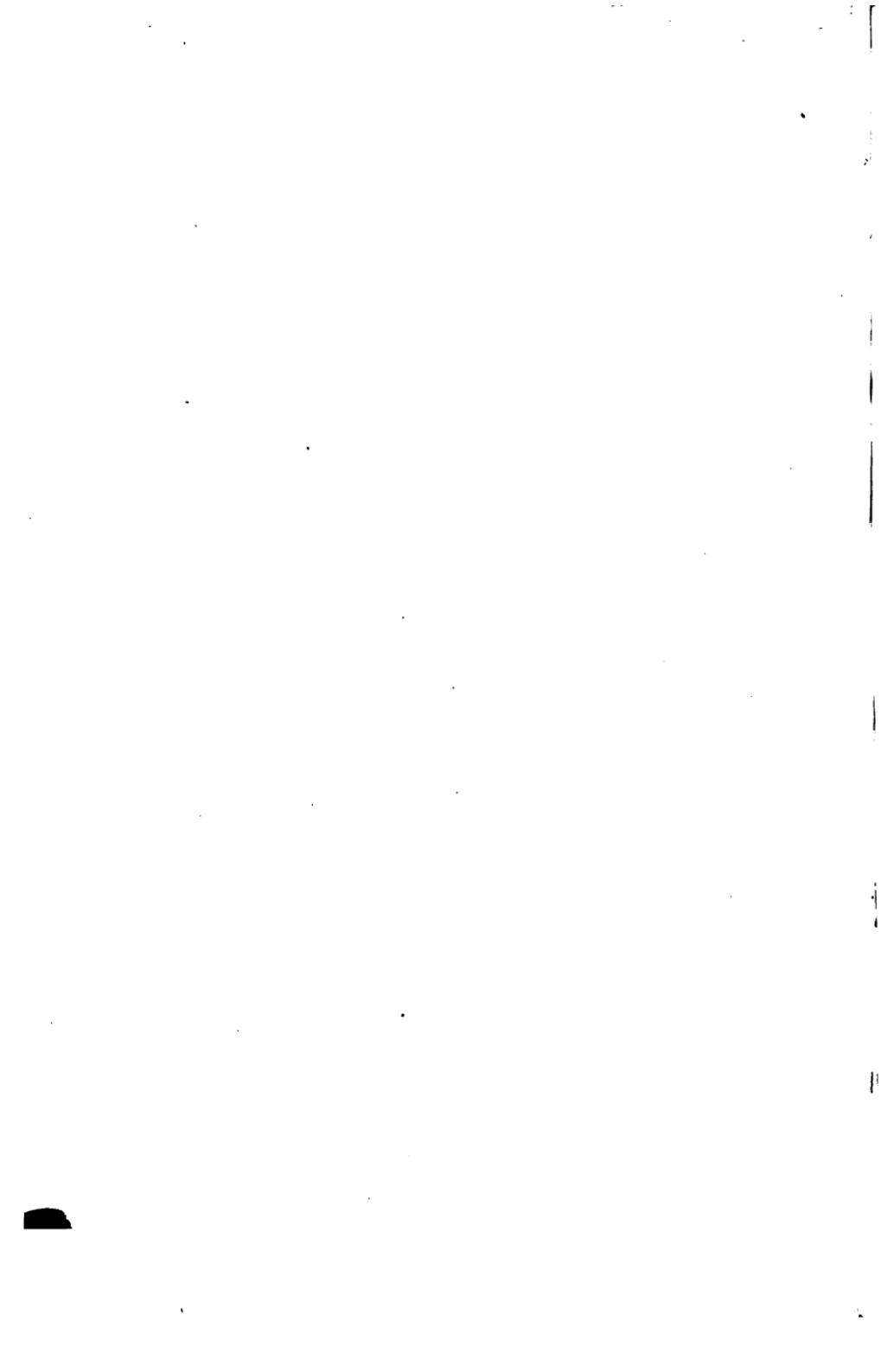
by which the diversity of colours is engendered. Gehlen Jour. VIII. 1809,
p. 269.

Remarks upon Macatney's observations on luminous animals. Schweiger,
Jour. XII. 1814, p. 342.

Idées sur la classification des Animaux. Ann. des. Sci. Natur. XIV.
zool. 1840, p. 247.

Rudimens des pieds vers l'anus des Boas. Feruss : Boell, 1826, p. 445.

THE END.



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